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 Gerritsen, Mary E.  
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 Grimaldi, J. Christopher  
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 Kljavin, Ivar J.  
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Ile	Gly	Gly	Ser	Val	Ile	Asn	Glu	Leu	Ile	Gly	Asn	Leu	Val	Gly
				170					175					180
His	Leu	Tyr	Phe	Phe	Leu	Met	Phe	Arg	Tyr	Pro	Met	Asp	Leu	Gly
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Gly	Arg	Asn	Phe	Leu	Ser	Thr	Pro	Gln	Phe	Leu	Tyr	Arg	Trp	Leu
				200					205					210
Pro	Ser	Arg	Arg	Gly	Gly	Val	Ser	Gly	Phe	Gly	Val	Pro	Pro	Ala
				215					220					225
Ser	Met	Arg	Arg	Ala	Ala	Asp	Gln	Asn	Gly	Gly	Gly	Gly	Arg	His
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 <212> PRT  
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Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys
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Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln
				185					190					195
Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr
				200					205					210
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn
				215					220					225
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val
				230					235					240
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys
				245					250					255
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys
				260					265					270
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn
				275					280					285
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr
				290					295					300
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met
				305					310					315
Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr
				320					325					330
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu
				335					340					345
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu
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<211> 418

<212> DNA

<213> Homo sapiens

<400> 9

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<210> 17  
<211> 20  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
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<210> 18  
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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

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<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

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				125					130					135
Ala	Asp	Thr	Pro	Cys	Phe	Gln	Asp	Phe	Asn	Ser	Ser	Thr	Val	Ala
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Ser	Gln	Ser	Ala	Asn	His	Thr	His	Gly	Thr	Thr	Ser	His	Arg	Glu
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Thr	Gln	Lys	Ala	Tyr	Leu	Leu	Ala	Ala	Gly	Val	Ile	Val	Cys	Ile
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Tyr	Ile	Ile	Cys	Ala	Val	Ile	Leu	Ile	Leu	Gly	Val	Arg	Glu	Gln
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Thr	Ile	Pro	Ile	Trp	Gln	Trp	Phe	Leu	Thr	Arg	Phe	Gly	Lys	Lys
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Thr	Ala	Val	Tyr	Val	Gly	Ile	Ser	Ser	Ala	Val	Pro	Phe	Leu	Ile
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				320					325					330
Trp	Ser	Met	Leu	Pro	Asp	Val	Ile	Asp	Asp	Phe	His	Leu	Lys	Gln
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Pro	His	Phe	His	Gly	Thr	Glu	Pro	Ile	Phe	Phe	Ser	Phe	Tyr	Val
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Phe	Phe	Thr	Lys	Phe	Ala	Ser	Gly	Val	Ser	Leu	Gly	Ile	Ser	Thr
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Leu	Ser	Leu	Asp	Phe	Ala	Gly	Tyr	Gln	Thr	Arg	Gly	Cys	Ser	Gln
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Pro	Glu	Arg	Val	Lys	Phe	Thr	Leu	Asn	Met	Leu	Val	Thr	Met	Ala
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Pro	Ile	Val	Leu	Ile	Leu	Leu	Gly	Leu	Leu	Leu	Phe	Lys	Met	Tyr
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440 445 450

Ser Thr Glu Leu Ala Ser Ile Leu  
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<212> DNA  
<213> Homo sapiens

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<212> DNA  
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<212> PRT  
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Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp  
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Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu  
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Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys  
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110 115 120  
His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr  
125 130 135

05975541574

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Cys Gly Val Ser Ala Leu Ser Met Leu Thr Cys Ser Ser Val Leu  
170 175 180  
His Ser Gly Asn Phe Gly Thr Asp Leu Glu Gln Lys Leu His Trp  
185 190 195  
Asn Pro Glu Asp Lys Gly Tyr Val Leu His Met Ile Thr Thr Ala  
200 205 210  
Ala Glu Trp Ser Met Ser Phe Ser Phe Phe Gly Phe Phe Leu Thr  
215 220 225  
Tyr Ile Arg Asp Phe Gln Lys Ile Ser Leu Arg Val Glu Ala Asn  
230 235 240  
Leu His Gly Leu Thr Leu Tyr Asp Thr Ala Pro Cys Pro Ile Asn  
245 250 255  
Asn Glu Arg Thr Arg Leu Leu Ser Arg Asp Ile  
260 265

<210> 24  
<211> 485  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 14, 484  
<223> unknown base

<400> 24  
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ctgatgcoga gttcgtctc tcgggtcttt tcttgggtccc aggcaaagcg 100  
gagcggagat cctcaaacgg cctagtgttt cgcgcttccg gagaaaatca 150  
goggtctaatt taattcctct ggtttggtga agcagttacc aagaatcttc 200  
aaccctttcc cacaaaagct aattgagtac acgttcctgt tgagtacacg 250  
ttcctgttga ttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
atattgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtggtttca 350  
gcaaggcctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
ctttcatatt ttcatacatt actgcagtaa cactccacca tatagaccgc 450  
gctttacctt atatcagtga cactggtaca gtanc 485

<210> 25  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgttaga aatgtggtgg tttagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

<400> 27  
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ctgccccgcg ggccgggggtg cggagccgac atgcgcccgc ttctcggcct 100  
ccttctggtc ttgcgcggct gcaccttcgc cttgtacttg ctgtcgacgc 150  
gactgccccg cgggcccggaga ctgggctcca ccgaggaggc tggaggcagg 200  
tcgctgtggt tcccctccga cctggcagag ctgcgggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcggcgccta cctctacaaa cagggtcttg ccatccccgc ctccagcttc 350  
ctgaatgttt tagctggtgc cttgtttggg ccatggcttg ggcttctgct 400  
gtgctgtgtg ttgacctcgg tgggtgccac atgctgttac ctgctctcca 450  
gtatttttgg caaacagttg gtggtgtcct acttttcctga taaagtggcc 500  
ctgctgcaga gaaaggtgga ggagaacaga aacagcttgt tttttttctt 550  
attgtttttg agacttttcc ccatgacacc aaactgggtc ttgaacctct 600  
cggccccaat tctgaacatt cccatcgtgc agttcttctt ctgagttctt 650  
atcggtttga tcccatataa ttcatctgt gtgcagacag ggtccatcct 700  
gtcaacccta acctctctgg atgctctttt ctctgggac actgtcttta 750  
agctgttggc cattgccatg gtggcattaa ttcttggac cctcattaaa 800  
aaatttagtc agaaacatct gcaattgaat gaaacaagta ctgctaata 850  
tatacacagt agaaaagaca catgatctgg attttctgtt tgccacatcc 900  
ctggactcag ttgcttattt gtgtaatgga tgtggctctc taaagcccct 950  
cattgttttt gattgccttc tataggtgat gtggacactg tgcataatg 1000

tgcagtgtct tttcagaaag gacactctgc tcttgaaggt gtattacatc 1050  
 aggtttttcaa accagccctg gtgtagcaga cactgcaaca gatgcctcct 1100  
 agaaaatgct gtttgtggcc gggcgcggtg gctcacgcct gtaatcccag 1150  
 cactttggga ggccgaggcc ggtgattcac aaggtcagga gttcaagacc 1200  
 agcctggcca agatggtgaa atcctgtctc taataaaaat acaaaaatta 1250  
 gccaggcgtg gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgcagt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28

<211> 264

<212> PRT

<213> Homo sapiens

<400> 28

Met	Arg	Pro	Leu	Leu	Gly	Leu	Leu	Leu	Val	Phe	Ala	Gly	Cys	Thr	1	5	10	15
Phe	Ala	Leu	Tyr	Leu	Leu	Ser	Thr	Arg	Leu	Pro	Arg	Gly	Arg	Arg	20	25	30	
Leu	Gly	Ser	Thr	Glu	Glu	Ala	Gly	Gly	Arg	Ser	Leu	Trp	Phe	Pro	35	40	45	
Ser	Asp	Leu	Ala	Glu	Leu	Arg	Glu	Leu	Ser	Glu	Val	Leu	Arg	Glu	50	55	60	
Tyr	Arg	Lys	Glu	His	Gln	Ala	Tyr	Val	Phe	Leu	Leu	Phe	Cys	Gly	65	70	75	
Ala	Tyr	Leu	Tyr	Lys	Gln	Gly	Phe	Ala	Ile	Pro	Gly	Ser	Ser	Phe	80	85	90	
Leu	Asn	Val	Leu	Ala	Gly	Ala	Leu	Phe	Gly	Pro	Trp	Leu	Gly	Leu	95	100	105	
Leu	Leu	Cys	Cys	Val	Leu	Thr	Ser	Val	Gly	Ala	Thr	Cys	Cys	Tyr	110	115	120	
Leu	Leu	Ser	Ser	Ile	Phe	Gly	Lys	Gln	Leu	Val	Val	Ser	Tyr	Phe	125	130	135	
Pro	Asp	Lys	Val	Ala	Leu	Leu	Gln	Arg	Lys	Val	Glu	Glu	Asn	Arg	140	145	150	
Asn	Ser	Leu	Phe	Phe	Phe	Leu	Leu	Phe	Leu	Arg	Leu	Phe	Pro	Met	155	160	165	
Thr	Pro	Asn	Trp	Phe	Leu	Asn	Leu	Ser	Ala	Pro	Ile	Leu	Asn	Ile	170	175	180	
Pro	Ile	Val	Gln	Phe	Phe	Phe	Ser	Val	Leu	Ile	Gly	Leu	Ile	Pro	185	190	195	
Tyr	Asn	Phe	Ile	Cys	Val	Gln	Thr	Gly	Ser	Ile	Leu	Ser	Thr	Leu	200	205	210	

Thr	Ser	Leu	Asp	Ala	Leu	Phe	Ser	Trp	Asp	Thr	Val	Phe	Lys	Leu
				215					220					225
Leu	Ala	Ile	Ala	Met	Val	Ala	Leu	Ile	Pro	Gly	Thr	Leu	Ile	Lys
				230					235					240
Lys	Phe	Ser	Gln	Lys	His	Leu	Gln	Leu	Asn	Glu	Thr	Ser	Thr	Ala
				245					250					255
Asn	His	Ile	His	Ser	Arg	Lys	Asp	Thr						
				260										

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
 ccgaggcggg aggagcccgga gggggcgcgga gccccgcatg aatcattgta 50  
 gtcaatcatt ttccagttct cagccgctca gttgtgatca agggacacgt 100  
 ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tggaagacat ggatcttgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggg gagacagacc ggccatcagt gtggcatgtc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctgagagacc cccccgcgag tctctctcc ttatagttgt gtataagggt 350  
 ctgcgaacct tgggattaat cttgctcact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgtt ttctggagct cacacctggc 450  
 gctcactcat ccatcacatt aggctgatgt ccttgcccat tgccaagaag 500  
 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
 accctttcca gactttgacc cctggtggac aaacgactgt gagcagaatg 600  
 agtcagagcc cattcctgcc aactgcactg gctgtgcca gaaacacctg 650  
 aaggatgatg tcttgaaga cggcccaagg aaatttgaga ggctccatcc 700  
 actggtgatc aagaaggga agcccctgtt ggaggaagag attcagcatt 750  
 ttttgtgcca gtaccctgag ggcacagaag gcttctctga aggggttttc 800  
 gccaaagtgt ggcgctgctt tctgagcgg tggttcccat ttccttatcc 850  
 atggaggaga cctctgaaca gatcacaat gttacgtgag ctttttctg 900  
 ttttactca cctgccattt ccaaaagatg cctctttaa caagtgtctc 950  
 tttcttcacc cagaacctgt tgtggggagt aagatgcata agatgcctga 1000  
 cctattttatc attggcagcg gtgaggccat gttgcagctc atccctccct 1050  
 tccagtgccg aagacattgt cagtctgtgg ccatgccaat agagccaggg 1100  
 gatatcggt atgtcgacac caccactgg aaggtctacg ttatagccag 1150

aggggtccag ccttttggtca tctgcatgg aaccgcttcc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccaggtt 1250  
 gaaaggggaa aaataaaaac aaaaacgatg aaactgcaaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
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 Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met  
 20 25 30  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys  
 35 40 45  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val  
 50 55 60  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala  
 65 70 75  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val  
 80 85 90  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg  
 95 100 105  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys  
 110 115 120  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp  
 125 130 135  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu  
 140 145 150  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys  
 155 160 165  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His  
 170 175 180  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile  
 185 190 195  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser  
 200 205 210  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp  
 215 220 225  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln  
 230 235 240  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro  
 245 250 255

Lys	Asp	Ala	Ser	Leu	Asn	Lys	Cys	Ser	Phe	Leu	His	Pro	Glu	Pro
				260					265					270
Val	Val	Gly	Ser	Lys	Met	His	Lys	Met	Pro	Asp	Leu	Phe	Ile	Ile
				275					280					285
Gly	Ser	Gly	Glu	Ala	Met	Leu	Gln	Leu	Ile	Pro	Pro	Phe	Gln	Cys
				290					295					300
Arg	Arg	His	Cys	Gln	Ser	Val	Ala	Met	Pro	Ile	Glu	Pro	Gly	Asp
				305					310					315
Ile	Gly	Tyr	Val	Asp	Thr	Thr	His	Trp	Lys	Val	Tyr	Val	Ile	Ala
				320					325					330
Arg	Gly	Val	Gln	Pro	Leu	Val	Ile	Cys	Asp	Gly	Thr	Ala	Phe	Ser
				335					340					345

Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
 ccacggtgtc cgttcttcgc cggcgggcag ctgtccccga ggcgggagga 50  
 gcccgagggg cgcgagcccc gcatgaatca ttgtagtcaa tcattttcca 100  
 gttctcagcc gttcagttgt gatcaaggga cacgtggttt ccgaactgcc 150  
 agctcagaat aggaaaataa cttgggattt tatattggaa gacatggatc 200  
 ttgttgccaa cgagatcagc atttatgaca aactttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttgga 400  
 ttaatcttgc tcaactgccta ctttgtgatt caacctttca gcccattagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
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 gcagagcgct gtcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
 tgcctatgag ccgctggggc tgcagtgggg actgccctcc ctgccacca 200  
 ccaatggcag cccaccttc tttgaagact tccaggttt ttgtgccaca 250

cccgaatggc gccacttcat cgacaaacag gtacagccaa ccatgtccca 300  
 gttcgaaatg gacacgtatg ctaagagcca cgaccttatg tcaggtttct 350  
 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
 gagcgcgccc agagtcgtcg ggccttccag gagctggtgc tggaacctgc 450  
 gcagaggcgg gcgcgcctgg aggggctacg ctacacggca gtgctgaagc 500  
 agcaggcaac gcagcactcc atggccctgc tgcactgggg ggcgctgtgg 550  
 cgccagctcg ccagcccatg tggggcctgg gcgctgaggg aactcccat 600  
 ccccgctgg aaactgtcca gcgcgagac atattcacgc atgcgtctga 650  
 agctggtgcc caaccatcac ttcgacctc acctggaagc cagcgtctc 700  
 cgagacaatc tgggtgaggt tcccctgaca cccaccgagg aggcctcact 750  
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 tgcaggagga ccagctcggc gaggacgagc tggctgagct ggagaccccg 850  
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 cgagtgccag ctggtgacgg tagtgccgt ggtcccagg ctgctggagg 950  
 tcaccacaca gaatgtatac ttctacgatg gcagcactga gcgcgtggaa 1000  
 accgaggagg gcacgcgcta tgatttccgg cgcacctgg ccagctgcg 1050  
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 atgctgcgtg cctcaggcct taccagaaa tgggtacagc gtgagatata 1350  
 caacttcgag tacttgatgc aactcaacac cattgcgggg cggacctaca 1400  
 atgacctgc tcagtaccct gtgttccct gggtoctgca ggactacgtg 1450  
 tccccaaacc tggacctcag caaccagcc gtcttccggg acctgtctaa 1500  
 gcccatcggg gtggtgaacc ccaagcatgc ccagctcgtg agggagaagt 1550  
 atgaaagctt tgaggacca gcagggacca ttgacaagtt ccactatggc 1600  
 acccactact ccaatgcagc aggcgtgatg cactacctca tccgcgtgga 1650  
 gcccttcacc tccctgcag tccagctgca aagtggcgc tttgactgct 1700  
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 agccctgccg atgtgaagga gtcaccccg gaattcttct actttcctga 1800  
 ctctctggag aaccagaacg gttttgacct gggctgtctc cagctgacca 1850



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gacttcatcc agcagcaccg ccaggctctg gagtcggagt atgtgtctgc 1950  
acacctacac gagtggatcg acctcatctt tggctacaag cagcgggggc 2000  
cagccgcoga ggaggccctc aatgtcttct attactgcac ctatgagggg 2050  
gctgtagacc tggaccatgt gacagatgag cgggaacgga aggctctgga 2100  
gggcattatc agcaactttg ggcagactcc ctgtcagctg ctgaaggagc 2150  
cacatccaac tcggctctca gctgaggaag cagcccatcg ccttgcacgc 2200  
ctggacacta actcaactag catcttccag cacctggacg aactcaaggc 2250  
attcttcgca gaggtgactg tgagtgccag tgggctgctg ggcacccaca 2300  
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gcactacccc gtggcaagct gttgagccag ctgagctgcc accttgatgt 2550  
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cccgggacac cacgtgcatg gtgtggcggc tcctgcatca ggggtgtctg 2650  
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ggtgacagag gacttttgtgt tgctgggcac cgcccagtgc gccctgcaca 3050  
tcctocaaact aaacacactg ctcccggccg cgccctccctt gcccatgaag 3100  
gtggccatcc gcagcgtggc cgtgaccaag gagcgcagcc acgtgctggt 3150  
gggcctggag gatggcaagc tcatcgtggt ggtcgcgggg cagccctctg 3200  
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ctgaacctgg ccagtcgggc tgctcgggcc ccgccccggg caggcctggc 3350  
ccgggaggcc ccgccagaa gtcggcggga acaccccggt gtgggcagcc 3400  
caggggggtga gcggggccca ccctgccag ctcagggtt ggcgggcgat 3450

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 ggggccgccc tgagggccag cactggcgtc t 3531

<210> 33  
 <211> 1003  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
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 Met Ser Gly Phe Trp Asn Ala Cys Tyr Asp Met Leu Met Ser Ser  
 20 25 30  
 Gly Gln Arg Arg Gln Trp Glu Arg Ala Gln Ser Arg Arg Ala Phe  
 35 40 45  
 Gln Glu Leu Val Leu Glu Pro Ala Gln Arg Arg Ala Arg Leu Glu  
 50 55 60  
 Gly Leu Arg Tyr Thr Ala Val Leu Lys Gln Gln Ala Thr Gln His  
 65 70 75  
 Ser Met Ala Leu Leu His Trp Gly Ala Leu Trp Arg Gln Leu Ala  
 80 85 90  
 Ser Pro Cys Gly Ala Trp Ala Leu Arg Asp Thr Pro Ile Pro Arg  
 95 100 105  
 Trp Lys Leu Ser Ser Ala Glu Thr Tyr Ser Arg Met Arg Leu Lys  
 110 115 120  
 Leu Val Pro Asn His His Phe Asp Pro His Leu Glu Ala Ser Ala  
 125 130 135  
 Leu Arg Asp Asn Leu Gly Glu Val Pro Leu Thr Pro Thr Glu Glu  
 140 145 150  
 Ala Ser Leu Pro Leu Ala Val Thr Lys Glu Ala Lys Val Ser Thr  
 155 160 165  
 Pro Pro Glu Leu Leu Gln Glu Asp Gln Leu Gly Glu Asp Glu Leu  
 170 175 180  
 Ala Glu Leu Glu Thr Pro Met Glu Ala Ala Glu Leu Asp Glu Gln  
 185 190 195  
 Arg Glu Lys Leu Val Leu Ser Ala Glu Cys Gln Leu Val Thr Val  
 200 205 210  
 Val Ala Val Val Pro Gly Leu Leu Glu Val Thr Thr Gln Asn Val  
 215 220 225  
 Tyr Phe Tyr Asp Gly Ser Thr Glu Arg Val Glu Thr Glu Glu Gly  
 230 235 240  
 Ile Gly Tyr Asp Phe Arg Arg Pro Leu Ala Gln Leu Arg Glu Val  
 245 250 255  
 His Leu Arg Arg Phe Asn Leu Arg Arg Ser Ala Leu Glu Leu Phe  
 260 265 270

Phe	Ile	Asp	Gln	Ala	Asn	Tyr	Phe	Leu	Asn	Phe	Pro	Cys	Lys	Val	275	280	285
Gly	Thr	Thr	Pro	Val	Ser	Ser	Pro	Ser	Gln	Thr	Pro	Arg	Pro	Gln	290	295	300
Pro	Gly	Pro	Ile	Pro	Pro	His	Thr	Gln	Val	Arg	Asn	Gln	Val	Tyr	305	310	315
Ser	Trp	Leu	Leu	Arg	Leu	Arg	Pro	Pro	Ser	Gln	Gly	Tyr	Leu	Ser	320	325	330
Ser	Arg	Ser	Pro	Gln	Glu	Met	Leu	Arg	Ala	Ser	Gly	Leu	Thr	Gln	335	340	345
Lys	Trp	Val	Gln	Arg	Glu	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met	Gln	350	355	360
Leu	Asn	Thr	Ile	Ala	Gly	Arg	Thr	Tyr	Asn	Asp	Leu	Ser	Gln	Tyr	365	370	375
Pro	Val	Phe	Pro	Trp	Val	Leu	Gln	Asp	Tyr	Val	Ser	Pro	Thr	Leu	380	385	390
Asp	Leu	Ser	Asn	Pro	Ala	Val	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Ile	395	400	405
Gly	Val	Val	Asn	Pro	Lys	His	Ala	Gln	Leu	Val	Arg	Glu	Lys	Tyr	410	415	420
Glu	Ser	Phe	Glu	Asp	Pro	Ala	Gly	Thr	Ile	Asp	Lys	Phe	His	Tyr	425	430	435
Gly	Thr	His	Tyr	Ser	Asn	Ala	Ala	Gly	Val	Met	His	Tyr	Leu	Ile	440	445	450
Arg	Val	Glu	Pro	Phe	Thr	Ser	Leu	His	Val	Gln	Leu	Gln	Ser	Gly	455	460	465
Arg	Phe	Asp	Cys	Ser	Asp	Arg	Gln	Phe	His	Ser	Val	Ala	Ala	Ala	470	475	480
Trp	Gln	Ala	Arg	Leu	Glu	Ser	Pro	Ala	Asp	Val	Lys	Glu	Leu	Ile	485	490	495
Pro	Glu	Phe	Phe	Tyr	Phe	Pro	Asp	Phe	Leu	Glu	Asn	Gln	Asn	Gly	500	505	510
Phe	Asp	Leu	Gly	Cys	Leu	Gln	Leu	Thr	Asn	Glu	Lys	Val	Gly	Asp	515	520	525
Val	Val	Leu	Pro	Pro	Trp	Ala	Ser	Ser	Pro	Glu	Asp	Phe	Ile	Gln	530	535	540
Gln	His	Arg	Gln	Ala	Leu	Glu	Ser	Glu	Tyr	Val	Ser	Ala	His	Leu	545	550	555
His	Glu	Trp	Ile	Asp	Leu	Ile	Phe	Gly	Tyr	Lys	Gln	Arg	Gly	Pro	560	565	570
Ala	Ala	Glu	Glu	Ala	Leu	Asn	Val	Phe	Tyr	Tyr	Cys	Thr	Tyr	Glu	575	580	585

Gly	Ala	Val	Asp	Leu 590	Asp	His	Val	Thr		Asp 595	Glu	Arg	Glu	Arg	Lys 600
Ala	Leu	Glu	Gly	Ile 605	Ile	Ser	Asn	Phe		Gly 610	Gln	Thr	Pro	Cys	Gln 615
Leu	Leu	Lys	Glu	Pro 620	His	Pro	Thr	Arg		Leu 625	Ser	Ala	Glu	Glu	Ala 630
Ala	His	Arg	Leu	Ala 635	Arg	Leu	Asp	Thr		Asn 640	Ser	Pro	Ser	Ile	Phe 645
Gln	His	Leu	Asp	Glu 650	Leu	Lys	Ala	Phe		Phe 655	Ala	Glu	Val	Thr	Val 660
Ser	Ala	Ser	Gly	Leu 665	Leu	Gly	Thr	His		Ser 670	Trp	Leu	Pro	Tyr	Asp 675
Arg	Asn	Ile	Ser	Asn 680	Tyr	Phe	Ser	Phe		Ser 685	Lys	Asp	Pro	Thr	Met 690
Gly	Ser	His	Lys	Thr 695	Gln	Arg	Leu	Leu		Ser 700	Gly	Pro	Trp	Val	Pro 705
Gly	Ser	Gly	Val	Ser 710	Gly	Gln	Ala	Leu		Ala 715	Val	Ala	Pro	Asp	Gly 720
Lys	Leu	Leu	Phe	Ser 725	Gly	Gly	His	Trp		Asp 730	Gly	Ser	Leu	Arg	Val 735
Thr	Ala	Leu	Pro	Arg 740	Gly	Lys	Leu	Leu		Ser 745	Gln	Leu	Ser	Cys	His 750
Leu	Asp	Val	Val	Thr 755	Cys	Leu	Ala	Leu		Asp 760	Thr	Cys	Gly	Ile	Tyr 765
Leu	Ile	Ser	Gly	Ser 770	Arg	Asp	Thr	Thr		Cys 775	Met	Val	Trp	Arg	Leu 780
Leu	His	Gln	Gly	Gly 785	Leu	Ser	Val	Gly		Leu 790	Ala	Pro	Lys	Pro	Val 795
Gln	Val	Leu	Tyr	Gly 800	His	Gly	Ala	Ala		Val 805	Ser	Cys	Val	Ala	Ile 810
Ser	Thr	Glu	Leu	Asp 815	Met	Ala	Val	Ser		Gly 820	Ser	Glu	Asp	Gly	Thr 825
Val	Ile	Ile	His	Thr 830	Val	Arg	Arg	Gly		Gln 835	Phe	Val	Ala	Ala	Leu 840
Arg	Pro	Leu	Gly	Ala 845	Thr	Phe	Pro	Gly		Pro 850	Ile	Phe	His	Leu	Ala 855
Leu	Gly	Ser	Glu	Gly 860	Gln	Ile	Val	Val		Gln 865	Ser	Ser	Ala	Trp	Glu 870
Arg	Pro	Gly	Ala	Gln 875	Val	Thr	Tyr	Ser		Leu 880	His	Leu	Tyr	Ser	Val 885
Asn	Gly	Lys	Leu	Arg 890	Ala	Ser	Leu	Pro		Leu 895	Ala	Glu	Gln	Pro	Thr 900

Ala	Leu	Thr	Val	Thr	Glu	Asp	Phe	Val	Leu	Leu	Gly	Thr	Ala	Gln
				905					910					915
Cys	Ala	Leu	His	Ile	Leu	Gln	Leu	Asn	Thr	Leu	Leu	Pro	Ala	Ala
				920					925					930
Pro	Pro	Leu	Pro	Met	Lys	Val	Ala	Ile	Arg	Ser	Val	Ala	Val	Thr
				935					940					945
Lys	Glu	Arg	Ser	His	Val	Leu	Val	Gly	Leu	Glu	Asp	Gly	Lys	Leu
				950					955					960
Ile	Val	Val	Val	Ala	Gly	Gln	Pro	Ser	Glu	Val	Arg	Ser	Ser	Gln
				965					970					975
Phe	Ala	Arg	Lys	Leu	Trp	Arg	Ser	Ser	Arg	Arg	Ile	Ser	Gln	Val
				980					985					990
Ser	Ser	Gly	Glu	Thr	Glu	Tyr	Asn	Pro	Thr	Glu	Ala	Arg		
				995					1000					

<210> 34  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 34  
 tgactgcact accccgtggc aagctgttga gccagctcag ctg 43

<210> 35  
 <211> 1395  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
 cggacgcgtg ggcggacgcg tgggggctgt gagaaagtgc caataaatac 50  
 atcatgcaac cccacggccc accttgtgaa ctctcgtgc ccagggctga 100  
 tgtgcgtctt ccagggctac tcatccaaag gcctaataca acgttctgtc 150  
 ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga cccttaactg 200  
 ggtactggcc ctggggccaat ggcctcctgc tggagccttt gcctccttct 250  
 actgggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300  
 gccttcatcc gcacactccg ttaccacact gggtcattgg catttgagc 350  
 cctcatcctg acccttgtgc agatagcccg ggtcatcttg gagtatattg 400  
 accacaagct cagaggagtg cagaaccctg tagcccgtg catcatgtgc 450  
 tgtttcaagt gctgcctctg gtgtctggaa aaatttatca agttcctaaa 500  
 ccgcaatgca tacatcatga tcgccatcta cggaagaat ttctgtgtct 550  
 cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtgggc 600  
 gtcctggaca aagtcacaga cctgctgctg ttctttggga agctgctggt 650



Lys	Leu	Arg	Gly	Val	Gln	Asn	Pro	Val	Ala	Arg	Cys	Ile	Met	Cys
				140					145					150
Cys	Phe	Lys	Cys	Cys	Leu	Trp	Cys	Leu	Glu	Lys	Phe	Ile	Lys	Phe
				155					160					165
Leu	Asn	Arg	Asn	Ala	Tyr	Ile	Met	Ile	Ala	Ile	Tyr	Gly	Lys	Asn
				170					175					180
Phe	Cys	Val	Ser	Ala	Lys	Asn	Ala	Phe	Met	Leu	Leu	Met	Arg	Asn
				185					190					195
Ile	Val	Arg	Val	Val	Val	Leu	Asp	Lys	Val	Thr	Asp	Leu	Leu	Leu
				200					205					210
Phe	Phe	Gly	Lys	Leu	Leu	Val	Val	Gly	Gly	Val	Gly	Val	Leu	Ser
				215					220					225
Phe	Phe	Phe	Phe	Ser	Gly	Arg	Ile	Pro	Gly	Leu	Gly	Lys	Asp	Phe
				230					235					240
Lys	Ser	Pro	His	Leu	Asn	Tyr	Tyr	Trp	Leu	Pro	Ile	Met	Thr	Ser
				245					250					255
Ile	Leu	Gly	Ala	Tyr	Val	Ile	Ala	Ser	Gly	Phe	Phe	Ser	Val	Phe
				260					265					270
Gly	Met	Cys	Val	Asp	Thr	Leu	Phe	Leu	Cys	Phe	Leu	Glu	Asp	Leu
				275					280					285
Glu	Arg	Asn	Asn	Gly	Ser	Leu	Asp	Arg	Pro	Tyr	Tyr	Met	Ser	Lys
				290					295					300
Ser	Leu	Leu	Lys	Ile	Leu	Gly	Lys	Lys	Asn	Glu	Ala	Pro	Pro	Asp
				305					310					315
Asn	Lys	Lys	Arg	Lys	Lys									
				320										

<210> 37  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 37  
 tcgtgcccag gggctgatgt gc 22

<210> 38  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 38  
 gtctttaccc agccccggga tgcg 24

<210> 39  
 <211> 50

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 39  
ggcctaatacc aacgttctgt cttcaatctg caaatctatg gggtcctggg 50

<210> 40  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 40  
gagtcttgac cgccgccggg ctcttggtac ctcagcgcg ggcgcaggcg 50  
tccggccgcc gtggctatgt tcgtgtccga tttccgcaaa gagttctacg 100  
agggtggtcca gagccagagg gtccttctct tcgtggcctc ggacgtggat 150  
gctctgtgtg cgtgcaagat ccttcaggcc ttgttccagt gtgaccacgt 200  
gcaatatacg ctgggttccag tttctgggtg gcaagaactt gaaactgcat 250  
ttcttgagca taaagaacag tttcattatt ttattctcat aaactgtgga 300  
gctaatttag acctattgga tattcttcaa cctgatgaag acactatatt 350  
ctttgtgtgt gactcccata ggccagtcaa tgcgtcaat gtatacaacg 400  
ataccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
gcctatgaag acatcttcag ggatgaagag gaggatgaag agcattcagg 500  
aatgacagt gatgggtcag agccttctga gaagcgaca cggttagaag 550  
aggagatagt ggagcaaacc atgcggagga ggcagcggcg agagtgggag 600  
gcccggagaa gagacatcct ctttgactac gagcagtatg aatatcatgg 650  
gacatcgtca gccatggtga tgtttgagct ggcttgatg ctgtccaagg 700  
acctgaatga catgctgtgg tgggccatcg ttggactaac agaccagtgg 750  
gtgcaagaca agatcactca aatgaaatac gtgactgatg ttggtgtcct 800  
gcagcgccac gtttcccgcc acaaccaccg gaacgaggat gaggagaaca 850  
cactctcgt ggactgcaca cggatctcct ttgagtatga cctccgcctg 900  
gtgctctacc agcactggtc cctccatgac agcctgtgca acaccagcta 950  
taccgcagcc aggttcaagc tgtggtctgt gcatggacag aagcggctcc 1000  
aggagttcct tgcagacatg ggtcttcccc tgaagcaggt gaagcagaag 1050  
ttccaggcca tggacatctc cttgaaggag aatttgcggg aatgattga 1100  
agagtctgca aataaatttg ggatgaagga catgcgcgtg cagactttca 1150  
gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200



gccaccatgt ctttcatgga gagccccgag aaggatggct cagggacaga 1250  
 tcacttcac caggctctgg acagcctctc caggagtaac ctggacaagc 1300  
 tgtaccatgg cctggaactc gccaaagaagc agctgcgagc caccagcag 1350  
 accattgcca gctgc 1365

<210> 41  
 <211> 566  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Met Phe Val Ser Asp Phe Arg Lys Glu Phe Tyr Glu Val Val Gln  
   1                  5                  10                  15  
 Ser Gln Arg Val Leu Leu Phe Val Ala Ser Asp Val Asp Ala Leu  
                   20                  25                  30  
 Cys Ala Cys Lys Ile Leu Gln Ala Leu Phe Gln Cys Asp His Val  
                   35                  40                  45  
 Gln Tyr Thr Leu Val Pro Val Ser Gly Trp Gln Glu Leu Glu Thr  
                   50                  55                  60  
 Ala Phe Leu Glu His Lys Glu Gln Phe His Tyr Phe Ile Leu Ile  
                   65                  70                  75  
 Asn Cys Gly Ala Asn Val Asp Leu Leu Asp Ile Leu Gln Pro Asp  
                   80                  85                  90  
 Glu Asp Thr Ile Phe Phe Val Cys Asp Ser His Arg Pro Val Asn  
                   95                  100                 105  
 Val Val Asn Val Tyr Asn Asp Thr Gln Ile Lys Leu Leu Ile Lys  
                  110                 115                 120  
 Gln Asp Asp Asp Leu Glu Val Pro Ala Tyr Glu Asp Ile Phe Arg  
                  125                 130                 135  
 Asp Glu Glu Glu Asp Glu Glu His Ser Gly Asn Asp Ser Asp Gly  
                  140                 145                 150  
 Ser Glu Pro Ser Glu Lys Arg Thr Arg Leu Glu Glu Glu Ile Val  
                  155                 160                 165  
 Glu Gln Thr Met Arg Arg Arg Gln Arg Arg Glu Trp Glu Ala Arg  
                  170                 175                 180  
 Arg Arg Asp Ile Leu Phe Asp Tyr Glu Gln Tyr Glu Tyr His Gly  
                  185                 190                 195  
 Thr Ser Ser Ala Met Val Met Phe Glu Leu Ala Trp Met Leu Ser  
                  200                 205                 210  
 Lys Asp Leu Asn Asp Met Leu Trp Trp Ala Ile Val Gly Leu Thr  
                  215                 220                 225  
 Asp Gln Trp Val Gln Asp Lys Ile Thr Gln Met Lys Tyr Val Thr  
                  230                 235                 240  
 Asp Val Gly Val Leu Gln Arg His Val Ser Arg His Asn His Arg

009884560

245										250					255				
Asn	Glu	Asp	Glu	Glu	Asn	Thr	Leu	Ser	Val	Asp	Cys	Thr	Arg	Ile					
				260					265					270					
Ser	Phe	Glu	Tyr	Asp	Leu	Arg	Leu	Val	Leu	Tyr	Gln	His	Trp	Ser					
				275					280					285					
Leu	His	Asp	Ser	Leu	Cys	Asn	Thr	Ser	Tyr	Thr	Ala	Ala	Arg	Phe					
				290					295					300					
Lys	Leu	Trp	Ser	Val	His	Gly	Gln	Lys	Arg	Leu	Gln	Glu	Phe	Leu					
				305					310					315					
Ala	Asp	Met	Gly	Leu	Pro	Leu	Lys	Gln	Val	Lys	Gln	Lys	Phe	Gln					
				320					325					330					
Ala	Met	Asp	Ile	Ser	Leu	Lys	Glu	Asn	Leu	Arg	Glu	Met	Ile	Glu					
				335					340					345					
Glu	Ser	Ala	Asn	Lys	Phe	Gly	Met	Lys	Asp	Met	Arg	Val	Gln	Thr					
				350					355					360					
Phe	Ser	Ile	His	Phe	Gly	Phe	Lys	His	Lys	Phe	Leu	Ala	Ser	Asp					
				365					370					375					
Val	Val	Phe	Ala	Thr	Met	Ser	Leu	Met	Glu	Ser	Pro	Glu	Lys	Asp					
				380					385					390					
Gly	Ser	Gly	Thr	Asp	His	Phe	Ile	Gln	Ala	Leu	Asp	Ser	Leu	Ser					
				395					400					405					
Arg	Ser	Asn	Leu	Asp	Lys	Leu	Tyr	His	Gly	Leu	Glu	Leu	Ala	Lys					
				410					415					420					
Lys	Gln	Leu	Arg	Ala	Thr	Gln	Gln	Thr	Ile	Ala	Ser	Cys	Leu	Cys					
				425					430					435					
Thr	Asn	Leu	Val	Ile	Ser	Gln	Gly	Pro	Phe	Leu	Tyr	Cys	Ser	Leu					
				440					445					450					
Met	Glu	Gly	Thr	Pro	Asp	Val	Met	Leu	Phe	Ser	Arg	Pro	Ala	Ser					
				455					460					465					
Leu	Ser	Leu	Leu	Ser	Lys	His	Leu	Leu	Lys	Ser	Phe	Val	Cys	Ser					
				470					475					480					
Thr	Lys	Asn	Arg	Arg	Cys	Lys	Leu	Leu	Pro	Leu	Val	Met	Ala	Ala					
				485					490					495					
Pro	Leu	Ser	Met	Glu	His	Gly	Thr	Val	Thr	Val	Val	Gly	Ile	Pro					
				500					505					510					
Pro	Glu	Thr	Asp	Ser	Ser	Asp	Arg	Lys	Asn	Phe	Phe	Gly	Arg	Ala					
				515					520					525					
Phe	Glu	Lys	Ala	Ala	Glu	Ser	Thr	Ser	Ser	Arg	Met	Leu	His	Asn					
				530					535					540					
His	Phe	Asp	Leu	Ser	Val	Ile	Glu	Leu	Lys	Ala	Glu	Asp	Arg	Ser					
				545					550					555					
Lys	Phe	Leu	Asp	Ala	Leu	Ile	Ser	Leu	Leu	Ser									

<210> 42  
 <211> 380  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 44, 118, 172, 183  
 <223> unknown base

<400> 42  
 gtacctcagc gcgagcgcca ggcgtccggc cgccgtggct atgntcgtgt 50  
 ccgatttccg caaagagttc tacgaggtgg tccagagcca gagggtcctt 100  
 ctcttcgtgg cctcggaagt ggatgctctg tgtgcgtgca agatccttca 150  
 ggccttggtc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200  
 ggtggcaaga acttgaaact gcatttcttg agcataaaga acagtttcat 250  
 tattttattc tcataaactg tggagctaata gtagacctat tggatattct 300  
 tcaacctgat gaagacacta tattctttgt gtgtgacacc cataggccag 350  
 tcaatgttgt caatgtatac aacgataccc 380

<210> 43  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 43  
 ttccgcaaag agttctacga ggtgg 25

<210> 44  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 44  
 attgacaaca ttgactggcc tatggg 26

<210> 45  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 45  
 gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgtga 50

<210> 46

<211> 3089  
<212> DNA  
<213> Homo sapiens

<400> 46  
caggaaccct ctctttgggt ctggattggg acccctttcc agtaccattt 50  
tttctagtga accacgaagg gacgatacca gaaaacaccc tcaacccaaa 100  
ggaaatagac tacagcccca attggctgac tttggctata gaaaaaagaa 150  
aggaacgaaa agagacagtt ttttttggaa agctaagtct tccctttatc 200  
gagtcaagaa accccccctt cttgagctat ttacagcttt taacaattga 250  
gtaaagtacg ctccggtcac catggtgaca gccgccctgg gtcccgctctg 300  
ggcagcgctc ctgctctttc tcctgatgtg tgagatccgt atggtggagc 350  
tcacctttga cagagctgtg gccagcggct gccaacggtg ctgtgactct 400  
gaggaccccc tggatcctgc ccatgtatcc tcagcctctt cctccggccg 450  
ccccacgcc ctgcctgaga tcagacccta cattaatatc accatcctga 500  
agggtgacaa aggggaccca ggccaatgg gcctgccagg gtacatgggc 550  
agggagggtc cccaagggga gcctggccct cagggcagca agggtgacaa 600  
gggggagatg ggagcccccg gcgccccgtg ccagaagcgc ttcttcgcct 650  
tctcagtggg ccgcaagacg gccctgcaca gcggcgagga cttccagacg 700  
ctgctcttcg aaagggtctt tgtgaacctt gatgggtgct ttgacatggc 750  
gaccggccag tttgctgctc ccctgcgtgg catctacttc ttcagcctca 800  
atgtgcacag ctggaattac aaggagacgt acgtgcacat tatgcataac 850  
cagaaagagg ctgtcatcct gtacgcgcag ccagcgcagc gcagcatcat 900  
gcagagccag agtgtgatgc tggacctggc ctacggggac cgcgtctggg 950  
tgcggtctct caagcgccag cgcgagaacg ccatctacag caacgacttc 1000  
gacacctaca tcaccttcag cggccacctc atcaaggccg aggacgactg 1050  
agggcctctg ggccaccctc ccggctggag agctcaggtg ctggtcccg 1100  
cccctgcagg gctcagtttg cactgctgtg aagcaggaag gccagggagg 1150  
tccccgggga cctggcattc tggggagacc ctgcttctat cttggctgcc 1200  
atcatccctc ccagcctatt tctgctctc tcttctctct tggacctatt 1250  
ttaagaagct tgctaacct aatattctag aactttccca gcctcgtagc 1300  
ccagcacttc tcaaacttgg aaatgcatgc gaatcaccgc gggttcgtgt 1350  
taaatgcaga ttctgactca gcaggtctga gtgggtccag gattctgtgt 1400  
ttctcatatg ttctgggtg atgctgatgg ggtcagtcta tgaaccacac 1450



taaagaatgc tgtctcctct tggaaaaaaa aaaaaaaaaa 3089

<210> 47  
<211> 259  
<212> PRT  
<213> Homo sapiens

<220>  
<221> Signal Peptide  
<222> 1-20  
<223> Signal Peptide

<220>  
<221> N-glycosylation Site  
<222> 72-75  
<223> N-glycosylation Site

<220>  
<221> Clq Domain Proteins  
<222> 144-178, 78-111, 84-117  
<223> Clq Domain Proteins

<400> 47

Met	Val	Thr	Ala	Ala	Leu	Gly	Pro	Val	Trp	Ala	Ala	Leu	Leu	Leu	
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Phe	Leu	Leu	Met	Cys	Glu	Ile	Arg	Met	Val	Glu	Leu	Thr	Phe	Asp	
				20					25					30	
Arg	Ala	Val	Ala	Ser	Gly	Cys	Gln	Arg	Cys	Cys	Asp	Ser	Glu	Asp	
				35					40					45	
Pro	Leu	Asp	Pro	Ala	His	Val	Ser	Ser	Ala	Ser	Ser	Ser	Gly	Arg	
				50					55					60	
Pro	His	Ala	Leu	Pro	Glu	Ile	Arg	Pro	Tyr	Ile	Asn	Ile	Thr	Ile	
				65					70					75	
Leu	Lys	Gly	Asp	Lys	Gly	Asp	Pro	Gly	Pro	Met	Gly	Leu	Pro	Gly	
				80					85					90	
Tyr	Met	Gly	Arg	Glu	Gly	Pro	Gln	Gly	Glu	Pro	Gly	Pro	Gln	Gly	
				95					100					105	
Ser	Lys	Gly	Asp	Lys	Gly	Glu	Met	Gly	Ser	Pro	Gly	Ala	Pro	Cys	
				110					115					120	
Gln	Lys	Arg	Phe	Phe	Ala	Phe	Ser	Val	Gly	Arg	Lys	Thr	Ala	Leu	
				125					130					135	
His	Ser	Gly	Glu	Asp	Phe	Gln	Thr	Leu	Leu	Phe	Glu	Arg	Val	Phe	
				140					145					150	
Val	Asn	Leu	Asp	Gly	Cys	Phe	Asp	Met	Ala	Thr	Gly	Gln	Phe	Ala	
				155					160					165	
Ala	Pro	Leu	Arg	Gly	Ile	Tyr	Phe	Phe	Ser	Leu	Asn	Val	His	Ser	
				170					175					180	
Trp	Asn	Tyr	Lys	Glu	Thr	Tyr	Val	His	Ile	Met	His	Asn	Gln	Lys	
				185					190					195	
Glu	Ala	Val	Ile	Leu	Tyr	Ala	Gln	Pro	Ser	Glu	Arg	Ser	Ile	Met	

	200	205	210
Gln Ser Gln Ser	Val Met Leu Asp Leu	Ala Tyr Gly Asp Arg	Val
	215	220	225
Trp Val Arg Leu	Phe Lys Arg Gln Arg	Glu Asn Ala Ile Tyr	Ser
	230	235	240
Asn Asp Phe Asp	Thr Tyr Ile Thr Phe	Ser Gly His Leu Ile	Lys
	245	250	255
Ala Glu Asp Asp			

<210> 48  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 48  
 ccagacgctg ctcttcgaaa gggtc 25

<210> 49  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 49  
 ggtccccgta ggccaggtcc agc 23

<210> 50  
 <211> 50  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 50  
 ctacttcttc agoctcaatg tgcacagctg gaattacaag gagacgtacg 50

<210> 51  
 <211> 2768  
 <212> DNA  
 <213> Homo sapiens

<400> 51  
 actcgaacgc agttgcttcg ggacccagga cccctcgagg cccgacccgc 50  
 caggaaagac tgaggccgcg gcctgccccg cccggctccc tgcgcccgcg 100  
 ccgcctcccg ggacagaaga tgtgtccag ggtccctctg ctgctgccgc 150  
 tgctcctgct actggccctg gggcctgggg tgcagggctg cccatccggc 200  
 tgccagtgcg gccagccaca gacagtcttc tgcaactgcc gccaggggac 250

cacggtgccc cgagacgtgc caccgacac ggtggggctg tacgtctttg 300  
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<212> PRT  
<213> Homo sapiens

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Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe  
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Glu Asn Gly Ile Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu  
65 70 75  
Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser  
80 85 90  
Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn Leu Ser Asn Leu

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Asp	Leu	Thr	Ala	Asn 110	Arg	Leu	His	Glu	Ile 115	Thr	Asn	Glu	Thr	Phe 120
Arg	Gly	Leu	Arg	Arg 125	Leu	Glu	Arg	Leu	Tyr 130	Leu	Gly	Lys	Asn	Arg 135
Ile	Arg	His	Ile	Gln 140	Pro	Gly	Ala	Phe	Asp 145	Thr	Leu	Asp	Arg	Leu 150
Leu	Glu	Leu	Lys	Leu 155	Gln	Asp	Asn	Glu	Leu 160	Arg	Ala	Leu	Pro	Pro 165
Leu	Arg	Leu	Pro	Arg 170	Leu	Leu	Leu	Leu	Asp 175	Leu	Ser	His	Asn	Ser 180
Leu	Leu	Ala	Leu	Glu 185	Pro	Gly	Ile	Leu	Asp 190	Thr	Ala	Asn	Val	Glu 195
Ala	Leu	Arg	Leu	Ala 200	Gly	Leu	Gly	Leu	Gln 205	Gln	Leu	Asp	Glu	Gly 210
Leu	Phe	Ser	Arg	Leu 215	Arg	Asn	Leu	His	Asp 220	Leu	Asp	Val	Ser	Asp 225
Asn	Gln	Leu	Glu	Arg 230	Val	Pro	Pro	Val	Ile 235	Arg	Gly	Leu	Arg	Gly 240
Leu	Thr	Arg	Leu	Arg 245	Leu	Ala	Gly	Asn	Thr 250	Arg	Ile	Ala	Gln	Leu 255
Arg	Pro	Glu	Asp	Leu 260	Ala	Gly	Leu	Ala	Ala 265	Leu	Gln	Glu	Leu	Asp 270
Val	Ser	Asn	Leu	Ser 275	Leu	Gln	Ala	Leu	Pro 280	Gly	Asp	Leu	Ser	Gly 285
Leu	Phe	Pro	Arg	Leu 290	Arg	Leu	Leu	Ala	Ala 295	Ala	Arg	Asn	Pro	Phe 300
Asn	Cys	Val	Cys	Pro 305	Leu	Ser	Trp	Phe	Gly 310	Pro	Trp	Val	Arg	Glu 315
Ser	His	Val	Thr	Leu 320	Ala	Ser	Pro	Glu	Glu 325	Thr	Arg	Cys	His	Phe 330
Pro	Pro	Lys	Asn	Ala 335	Gly	Arg	Leu	Leu	Leu 340	Glu	Leu	Asp	Tyr	Ala 345
Asp	Phe	Gly	Cys	Pro 350	Ala	Thr	Thr	Thr	Thr 355	Ala	Thr	Val	Pro	Thr 360
Thr	Arg	Pro	Val	Val 365	Arg	Glu	Pro	Thr	Ala 370	Leu	Ser	Ser	Ser	Leu 375
Ala	Pro	Thr	Trp	Leu 380	Ser	Pro	Thr	Ala	Pro 385	Ala	Thr	Glu	Ala	Pro 390
Ser	Pro	Pro	Ser	Thr 395	Ala	Pro	Pro	Thr	Val 400	Gly	Pro	Val	Pro	Gln 405
Pro	Gln	Asp	Cys	Pro	Pro	Ser	Thr	Cys	Leu	Asn	Gly	Gly	Thr	Cys

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His Leu Gly Thr	Arg His His Leu Ala	Cys Leu Cys Pro Glu	Gly
	425	430	435
Phe Thr Gly Leu	Tyr Cys Glu Ser Gln	Met Gly Gln Gly Thr	Arg
	440	445	450
Pro Ser Pro Thr	Pro Val Thr Pro Arg	Pro Pro Arg Ser Leu	Thr
	455	460	465
Leu Gly Ile Glu	Pro Val Ser Pro Thr	Ser Leu Arg Val Gly	Leu
	470	475	480
Gln Arg Tyr Leu	Gln Gly Ser Ser Val	Gln Leu Arg Ser Leu	Arg
	485	490	495
Leu Thr Tyr Arg	Asn Leu Ser Gly Pro	Asp Lys Arg Leu Val	Thr
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Leu Arg Leu Pro	Ala Ser Leu Ala Glu	Tyr Thr Val Thr Gln	Leu
	515	520	525
Arg Pro Asn Ala	Thr Tyr Ser Val Cys	Val Met Pro Leu Gly	Pro
	530	535	540
Gly Arg Val Pro	Glu Gly Glu Glu Ala	Cys Gly Glu Ala His	Thr
	545	550	555
Pro Pro Ala Val	His Ser Asn His Ala	Pro Val Thr Gln Ala	Arg
	560	565	570
Glu Gly Asn Leu	Pro Leu Leu Ile Ala	Pro Ala Leu Ala Ala	Val
	575	580	585
Leu Leu Ala Ala	Leu Ala Ala Val Gly	Ala Ala Tyr Cys Val	Arg
	590	595	600
Arg Gly Arg Ala	Met Ala Ala Ala Ala	Gln Asp Lys Gly Gln	Val
	605	610	615
Gly Pro Gly Ala	Gly Pro Leu Glu Leu	Glu Gly Val Lys Val	Pro
	620	625	630
Leu Glu Pro Gly	Pro Lys Ala Thr Glu	Gly Gly Gly Glu Ala	Leu
	635	640	645
Pro Ser Gly Ser	Glu Cys Glu Val Pro	Leu Met Gly Phe Pro	Gly
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<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 53

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<210> 54  
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<212> DNA  
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<210> 56  
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<212> DNA  
<213> Homo sapiens

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<211> 811  
<212> PRT  
<213> Homo sapiens

<400> 57  
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35 40 45  
Leu Thr Pro Ala Thr Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu  
50 55 60  
Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg  
65 70 75  
Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys  
80 85 90

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Tyr	Leu	Asp	Leu	Ser	Phe	Asn	Asp	Phe	Asp	Thr	Met	Pro	Ile	Cys	
				125					130					135	
Glu	Glu	Ala	Gly	Asn	Met	Ser	His	Leu	Glu	Ile	Leu	Gly	Leu	Ser	
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Gly	Ala	Lys	Ile	Gln	Lys	Ser	Asp	Phe	Gln	Lys	Ile	Ala	His	Leu	
				155					160					165	
His	Leu	Asn	Thr	Val	Phe	Leu	Gly	Phe	Arg	Thr	Leu	Pro	His	Tyr	
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Glu	Glu	Gly	Ser	Leu	Pro	Ile	Leu	Asn	Thr	Thr	Lys	Leu	His	Ile	
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Val	Leu	Pro	Met	Asp	Thr	Asn	Phe	Trp	Val	Leu	Leu	Arg	Asp	Gly	
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Ile	Lys	Thr	Ser	Lys	Ile	Leu	Glu	Met	Thr	Asn	Ile	Asp	Gly	Lys	
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Ser	Gln	Phe	Val	Ser	Tyr	Glu	Met	Gln	Arg	Asn	Leu	Ser	Leu	Glu	
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Asn	Ala	Lys	Thr	Ser	Val	Leu	Leu	Leu	Asn	Lys	Val	Asp	Leu	Leu	
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Trp	Asp	Asp	Leu	Phe	Leu	Ile	Leu	Gln	Phe	Val	Trp	His	Thr	Ser	
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Val	Glu	His	Phe	Gln	Ile	Arg	Asn	Val	Thr	Phe	Gly	Gly	Lys	Ala	
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Tyr	Leu	Asp	His	Asn	Ser	Phe	Asp	Tyr	Ser	Asn	Thr	Val	Met	Arg	
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Thr	Ile	Lys	Leu	Glu	His	Val	His	Phe	Arg	Val	Phe	Tyr	Ile	Gln	
				305					310					315	
Gln	Asp	Lys	Ile	Tyr	Leu	Leu	Leu	Thr	Lys	Met	Asp	Ile	Glu	Asn	
				320					325					330	
Leu	Thr	Ile	Ser	Asn	Ala	Gln	Met	Pro	His	Met	Leu	Phe	Pro	Asn	
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Tyr	Pro	Thr	Lys	Phe	Gln	Tyr	Leu	Asn	Phe	Ala	Asn	Asn	Ile	Leu	
				350					355					360	
Thr	Asp	Glu	Leu	Phe	Lys	Arg	Thr	Ile	Gln	Leu	Pro	His	Leu	Lys	
				365					370					375	
Thr	Leu	Ile	Leu	Asn	Gly	Asn	Lys	Leu	Glu	Thr	Leu	Ser	Leu	Val	
				380					385					390	
Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
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Gln	Asn	Leu	Leu	Gln 410	His	Lys	Asn	Asp	Glu 415	Asn	Cys	Ser	Trp	Pro 420
Glu	Thr	Val	Val	Asn 425	Met	Asn	Leu	Ser	Tyr 430	Asn	Lys	Leu	Ser	Asp 435
Ser	Val	Phe	Arg	Cys 440	Leu	Pro	Lys	Ser	Ile 445	Gln	Ile	Leu	Asp	Leu 450
Asn	Asn	Asn	Gln	Ile 455	Gln	Thr	Val	Pro	Lys 460	Glu	Thr	Ile	His	Leu 465
Met	Ala	Leu	Arg	Glu 470	Leu	Asn	Ile	Ala	Phe 475	Asn	Phe	Leu	Thr	Asp 480
Leu	Pro	Gly	Cys	Ser 485	His	Phe	Ser	Arg	Leu 490	Ser	Val	Leu	Asn	Ile 495
Glu	Met	Asn	Phe	Ile 500	Leu	Ser	Pro	Ser	Leu 505	Asp	Phe	Val	Gln	Ser 510
Cys	Gln	Glu	Val	Lys 515	Thr	Leu	Asn	Ala	Gly 520	Arg	Asn	Pro	Phe	Arg 525
Cys	Thr	Cys	Glu	Leu 530	Lys	Asn	Phe	Ile	Gln 535	Leu	Glu	Thr	Tyr	Ser 540
Glu	Val	Met	Met	Val 545	Gly	Trp	Ser	Asp	Ser 550	Tyr	Thr	Cys	Glu	Tyr 555
Pro	Leu	Asn	Leu	Arg 560	Gly	Thr	Arg	Leu	Lys 565	Asp	Val	His	Leu	His 570
Glu	Leu	Ser	Cys	Asn 575	Thr	Ala	Leu	Leu	Ile 580	Val	Thr	Ile	Val	Val 585
Ile	Met	Leu	Val	Leu 590	Gly	Leu	Ala	Val	Ala 595	Phe	Cys	Cys	Leu	His 600
Phe	Asp	Leu	Pro	Trp 605	Tyr	Leu	Arg	Met	Leu 610	Gly	Gln	Cys	Thr	Gln 615
Thr	Trp	His	Arg	Val 620	Arg	Lys	Thr	Thr	Gln 625	Glu	Gln	Leu	Lys	Arg 630
Asn	Val	Arg	Phe	His 635	Ala	Phe	Ile	Ser	Tyr 640	Ser	Glu	His	Asp	Ser 645
Leu	Trp	Val	Lys	Asn 650	Glu	Leu	Ile	Pro	Asn 655	Leu	Glu	Lys	Glu	Asp 660
Gly	Ser	Ile	Leu	Ile 665	Cys	Leu	Tyr	Glu	Ser 670	Tyr	Phe	Asp	Pro	Gly 675
Lys	Ser	Ile	Ser	Glu 680	Asn	Ile	Val	Ser	Phe 685	Ile	Glu	Lys	Ser	Tyr 690
Lys	Ser	Ile	Phe	Val 695	Leu	Ser	Pro	Asn	Phe 700	Val	Gln	Asn	Glu	Trp 705
Cys	His	Tyr	Glu	Phe 710	Tyr	Phe	Ala	His	His 715	Asn	Leu	Phe	His	Glu 720



Asn	Ser	Asp	His	Ile	Ile	Leu	Ile	Leu	Leu	Glu	Pro	Ile	Pro	Phe
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Tyr	Cys	Ile	Pro	Thr	Arg	Tyr	His	Lys	Leu	Lys	Ala	Leu	Leu	Glu
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Lys	Lys	Ala	Tyr	Leu	Glu	Trp	Pro	Lys	Asp	Arg	Arg	Lys	Cys	Gly
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Leu	Phe	Trp	Ala	Asn	Leu	Arg	Ala	Ala	Ile	Asn	Val	Asn	Val	Leu
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Ala	Thr	Arg	Glu	Met	Tyr	Glu	Leu	Gln	Thr	Phe	Thr	Glu	Leu	Asn
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Leu

<210> 58  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 58  
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<210> 59  
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 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

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<210> 60  
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 <212> DNA  
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<220>  
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<210> 61  
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 <212> DNA  
 <213> Homo sapiens

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 <211> 756  
 <212> PRT  
 <213> Homo sapiens

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 Leu Ala Val Thr Leu Ala Gly Val Gly Ala Gln Gly Ala Ala Leu  
                     20                    25                    30  
 Glu Asp Pro Asp Tyr Tyr Gly Gln Glu Ile Trp Ser Arg Glu Pro  
                     35                    40                    45  
 Tyr Tyr Ala Arg Pro Glu Pro Glu Leu Glu Thr Phe Ser Pro Pro  
                     50                    55                    60  
 Leu Pro Ala Gly Pro Gly Glu Glu Trp Glu Arg Arg Pro Gln Glu  
                     65                    70                    75  
 Pro Arg Pro Pro Lys Arg Ala Thr Lys Pro Lys Lys Ala Pro Lys  
                     80                    85                    90  
 Arg Glu Lys Ser Ala Pro Glu Pro Pro Pro Pro Gly Lys His Ser  
                     95                    100                    105  
 Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn  
                     110                    115                    120  
 Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu Ser  
                     125                    130                    135  
 Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln  
                     140                    145                    150  
 Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg  
                     155                    160                    165  
 Gly Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr  
                     170                    175                    180  
 Asp Gly Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile

Glu	Val	Asp	Ala	Arg	Arg	Leu	Thr	Arg	Phe	Thr	Gly	Val	Ile	Thr
				200					205					210
Gln	Gly	Arg	Asn	Ser	Leu	Trp	Leu	Ser	Asp	Trp	Val	Thr	Ser	Tyr
				215					220					225
Lys	Val	Met	Val	Ser	Asn	Asp	Ser	His	Thr	Trp	Val	Thr	Val	Lys
				230					235					240
Asn	Gly	Ser	Gly	Asp	Met	Ile	Phe	Glu	Gly	Asn	Ser	Glu	Lys	Glu
				245					250					255
Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val	Pro	Met	Val	Ala	Arg	Tyr
				260					265					270
Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly	Ser	Ile	Cys
				275					280					285
Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro	Asn	Asn
				290					295					300
Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu	Asp
				305					310					315
Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Leu	Met	Lys	Val
				320					325					330
Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly
				335					340					345
Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp
				350					355					360
His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile
				365					370					375
Ala	Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu
				380					385					390
Leu	Leu	Val	Gln	Phe	Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	Ala
				395					400					405
Arg	Ile	Val	His	Leu	Val	Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro
				410					415					420
Ser	Leu	Asn	Pro	Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser
				425					430					435
Glu	Leu	Gly	Gly	Trp	Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile
				440					445					450
Asp	Ile	Asn	Asn	Asn	Phe	Pro	Asp	Leu	Asn	Thr	Leu	Leu	Trp	Glu
				455					460					465
Ala	Glu	Asp	Arg	Gln	Asn	Val	Pro	Arg	Lys	Val	Pro	Asn	His	Tyr
				470					475					480
Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu	Ser	Glu	Asn	Ala	Thr	Val	Ala
				485					490					495
Ala	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp	Met	Glu	Lys	Ile	Pro	Phe

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Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	Glu	Leu	Val	Val	Ala	Tyr
				515					520					525
Pro	Tyr	Asp	Leu	Val	Arg	Ser	Pro	Trp	Lys	Thr	Gln	Glu	His	Thr
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Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	Ala	Tyr	Ser	Tyr
				545					550					555
Ala	Ser	Thr	His	Arg	Leu	Met	Thr	Asp	Ala	Arg	Arg	Arg	Val	Cys
				560					565					570
His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	Gly	Thr	Val	Asn	Gly	Ala
				575					580					585
Ser	Trp	His	Thr	Val	Ala	Gly	Ser	Leu	Asn	Asp	Phe	Ser	Tyr	Leu
				590					595					600
His	Thr	Asn	Cys	Phe	Glu	Leu	Ser	Ile	Tyr	Val	Gly	Cys	Asp	Lys
				605					610					615
Tyr	Pro	His	Glu	Ser	Gln	Leu	Pro	Glu	Glu	Trp	Glu	Asn	Asn	Arg
				620					625					630
Glu	Ser	Leu	Ile	Val	Phe	Met	Glu	Gln	Val	His	Arg	Gly	Ile	Lys
				635					640					645
Gly	Leu	Val	Arg	Asp	Ser	His	Gly	Lys	Gly	Ile	Pro	Asn	Ala	Ile
				650					655					660
Ile	Ser	Val	Glu	Gly	Ile	Asn	His	Asp	Ile	Arg	Thr	Ala	Asn	Asp
				665					670					675
Gly	Asp	Tyr	Trp	Arg	Leu	Leu	Asn	Pro	Gly	Glu	Tyr	Val	Val	Thr
				680					685					690
Ala	Lys	Ala	Glu	Gly	Phe	Thr	Ala	Ser	Thr	Lys	Asn	Cys	Met	Val
				695					700					705
Gly	Tyr	Asp	Met	Gly	Ala	Thr	Arg	Cys	Asp	Phe	Thr	Leu	Ser	Lys
				710					715					720
Thr	Asn	Met	Ala	Arg	Ile	Arg	Glu	Ile	Met	Glu	Lys	Phe	Gly	Lys
				725					730					735
Gln	Pro	Val	Ser	Leu	Pro	Ala	Arg	Arg	Leu	Lys	Leu	Arg	Gly	Arg
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Lys	Arg	Arg	Gln	Arg	Gly									
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<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 63

gtttctcaatg agctaccggt cccc 24

<210> 64  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 64  
cgcgatgtag tggaactcgg gctc 24

<210> 65  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

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<210> 66  
<211> 2854  
<212> DNA  
<213> Homo sapiens

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aaaataaatg attaaaatgt gctttgaaaa aaaaaaaaaa aaaaaaaaaa 2850  
aaaa 2854

<210> 67  
<211> 510  
<212> PRT  
<213> Homo sapiens

<400> 67  
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Ser Pro Gly Phe Ser Ser Phe Pro Gly Val Asp Ser Ser Ser Ser  
35 40 45  
Phe Ser Ser Ser Ser Arg Ser Gly Ser Ser Ser Ser Arg Ser Leu  
50 55 60  
Gly Ser Gly Gly Ser Val Ser Gln Leu Phe Ser Asn Phe Thr Gly  
65 70 75  
Ser Val Asp Asp Arg Gly Thr Cys Gln Cys Ser Val Ser Leu Pro  
80 85 90  
Asp Thr Thr Phe Pro Val Asp Arg Val Glu Arg Leu Glu Phe Thr  
95 100 105  
Ala His Val Leu Ser Gln Lys Phe Glu Lys Glu Leu Ser Lys Val  
110 115 120  
Arg Glu Tyr Val Gln Leu Ile Ser Val Tyr Glu Lys Lys Leu Leu  
125 130 135  
Asn Leu Thr Val Arg Ile Asp Ile Met Glu Lys Asp Thr Ile Ser  
140 145 150  
Tyr Thr Glu Leu Asp Phe Glu Leu Ile Lys Val Glu Val Lys Glu  
155 160 165  
Met Glu Lys Leu Val Ile Gln Leu Lys Glu Ser Phe Gly Gly Ser  
170 175 180  
Ser Glu Ile Val Asp Gln Leu Glu Val Glu Ile Arg Asn Met Thr  
185 190 195  
Leu Leu Val Glu Lys Leu Glu Thr Leu Asp Lys Asn Asn Val Leu  
200 205 210

Ala	Ile	Arg	Arg	Glu	Ile	Val	Ala	Leu	Lys	Thr	Lys	Leu	Lys	Glu	215	220	225
Cys	Glu	Ala	Ser	Lys	Asp	Gln	Asn	Thr	Pro	Val	Val	His	Pro	Pro	230	235	240
Pro	Thr	Pro	Gly	Ser	Cys	Gly	His	Gly	Gly	Val	Val	Asn	Ile	Ser	245	250	255
Lys	Pro	Ser	Val	Val	Gln	Leu	Asn	Trp	Arg	Gly	Phe	Ser	Tyr	Leu	260	265	270
Tyr	Gly	Ala	Trp	Gly	Arg	Asp	Tyr	Ser	Pro	Gln	His	Pro	Asn	Lys	275	280	285
Gly	Leu	Tyr	Trp	Val	Ala	Pro	Leu	Asn	Thr	Asp	Gly	Arg	Leu	Leu	290	295	300
Glu	Tyr	Tyr	Arg	Leu	Tyr	Asn	Thr	Leu	Asp	Asp	Leu	Leu	Leu	Tyr	305	310	315
Ile	Asn	Ala	Arg	Glu	Leu	Arg	Ile	Thr	Tyr	Gly	Gln	Gly	Ser	Gly	320	325	330
Thr	Ala	Val	Tyr	Asn	Asn	Asn	Met	Tyr	Val	Asn	Met	Tyr	Asn	Thr	335	340	345
Gly	Asn	Ile	Ala	Arg	Val	Asn	Leu	Thr	Thr	Asn	Thr	Ile	Ala	Val	350	355	360
Thr	Gln	Thr	Leu	Pro	Asn	Ala	Ala	Tyr	Asn	Asn	Arg	Phe	Ser	Tyr	365	370	375
Ala	Asn	Val	Ala	Trp	Gln	Asp	Ile	Asp	Phe	Ala	Val	Asp	Glu	Asn	380	385	390
Gly	Leu	Trp	Val	Ile	Tyr	Ser	Thr	Glu	Ala	Ser	Thr	Gly	Asn	Met	395	400	405
Val	Ile	Ser	Lys	Leu	Asn	Asp	Thr	Thr	Leu	Gln	Val	Leu	Asn	Thr	410	415	420
Trp	Tyr	Thr	Lys	Gln	Tyr	Lys	Pro	Ser	Ala	Ser	Asn	Ala	Phe	Met	425	430	435
Val	Cys	Gly	Val	Leu	Tyr	Ala	Thr	Arg	Thr	Met	Asn	Thr	Arg	Thr	440	445	450
Glu	Glu	Ile	Phe	Tyr	Tyr	Tyr	Asp	Thr	Asn	Thr	Gly	Lys	Glu	Gly	455	460	465
Lys	Leu	Asp	Ile	Val	Met	His	Lys	Met	Gln	Glu	Lys	Val	Gln	Ser	470	475	480
Ile	Asn	Tyr	Asn	Pro	Phe	Asp	Gln	Lys	Leu	Tyr	Val	Tyr	Asn	Asp	485	490	495
Gly	Tyr	Leu	Leu	Asn	Tyr	Asp	Leu	Ser	Val	Leu	Gln	Lys	Pro	Gln	500	505	510

<210> 68  
 <211> 410  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

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ggtgaaacatc agcaaaccgt ctgtgggttca gctcaactgg agaggggtttt 150  
cttatctata tgggtgcttg ggtagggatt actctcccca gcatccaaac 200  
aaaggngatgt attggngngc gccattgaat acagatggga gactgttgga 250  
gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300  
ctcgagagtt gcggatcacc tatggccaag gtagtggtac agcagtttac 350  
aacaacaaca tgtacgtcaa catgtacaac accgggnata ttgccagagt 400  
taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtgggc atgggtgggtgt ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctaccttggc cataggtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

catcagcaaa ccgtctgtgg ttcagctcaa ctggagaggg tt 42

<210> 72

<211> 3127

<212> DNA

<213> Homo sapiens

<400> 72

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tggggctgtg ctccatggcg agctggatac catgtttgtg tggaagtgcc 150  
ccgtgtttgc tatgccgatg ctgtcctagt ggaaacaact ccactgtaac 200  
tagattgatc tatgcacttt tcttgcttgt tggagtatgt gtagcttgtg 250  
taatgttgat accaggaatg gaagaacaac tgaataagat tcctggattt 300  
tgtgagaatg agaaaggtgt tgtcccttgt aacattttgg ttggctataa 350  
agctgtatat cgtttgtgct ttgggttggc tatgttctat cttcttctct 400  
ctttactaat gatcaaagtg aagagtagca gtgacctag agctgcagtg 450  
cacaatggat tttggttctt taaatttgct gcagcaattg caattattat 500  
tggggcattc ttcattccag aagggaacttt tacaactgtg tggttttatg 550  
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 cagttgtctg aaaaatctta taaggtttta cccttgatac ggaatttaca 1950  
 caggtaggga gtgttttagtg gacaatagtg taggttatgg atggaggtgt 2000  
 cggtaactaa ttgaataacg agtaaataat cttacttggg tagagatggc 2050  
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 aaggataatc atgggttaga aggaagtgtt ttgaaagtca ctttgaaagt 2200  
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 cacatggtga acctgttcta taaaaataat ctggccttga gcatatgcct 2350  
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<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73

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Cys	Leu	Cys	Gly	Ser	Ala	Pro	Cys	Leu	Leu	Cys	Arg	Cys	Cys	Pro	20	25	30	
Ser	Gly	Asn	Asn	Ser	Thr	Val	Thr	Arg	Leu	Ile	Tyr	Ala	Leu	Phe	35	40	45	
Leu	Leu	Val	Gly	Val	Cys	Val	Ala	Cys	Val	Met	Leu	Ile	Pro	Gly	50	55	60	
Met	Glu	Glu	Gln	Leu	Asn	Lys	Ile	Pro	Gly	Phe	Cys	Glu	Asn	Glu	65	70	75	
Lys	Gly	Val	Val	Pro	Cys	Asn	Ile	Leu	Val	Gly	Tyr	Lys	Ala	Val	80	85	90	
Tyr	Arg	Leu	Cys	Phe	Gly	Leu	Ala	Met	Phe	Tyr	Leu	Leu	Leu	Ser	95	100	105	
Leu	Leu	Met	Ile	Lys	Val	Lys	Ser	Ser	Ser	Asp	Pro	Arg	Ala	Ala	110	115	120	
Val	His	Asn	Gly	Phe	Trp	Phe	Phe	Lys	Phe	Ala	Ala	Ala	Ile	Ala	125	130	135	
Ile	Ile	Ile	Gly	Ala	Phe	Phe	Ile	Pro	Glu	Gly	Thr	Phe	Thr	Thr	140	145	150	
Val	Trp	Phe	Tyr	Val	Gly	Met	Ala	Gly	Ala	Phe	Cys	Phe	Ile	Leu	155	160	165	
Ile	Gln	Leu	Val	Leu	Leu	Ile	Asp	Phe	Ala	His	Ser	Trp	Asn	Glu	170	175	180	
Ser	Trp	Val	Glu	Lys	Met	Glu	Glu	Gly	Asn	Ser	Arg	Cys	Trp	Tyr	185	190	195	
Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu	200	205	210	
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser	215	220	225	
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys	230	235	240	
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser	245	250	255	
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr	260	265	270	
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr	275	280	285	

Asn	Cys	Asn	Pro	Ser	Leu	Leu	Ser	Ile	Ile	Gly	Tyr	Asn	Thr	Thr
				290					295					300
Ser	Thr	Val	Pro	Lys	Glu	Gly	Gln	Ser	Val	Gln	Trp	Trp	His	Ala
				305					310					315
Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr
				320					325					330
Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr
				335					340					345
Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg
				350					355					360
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val
				365					370					375
Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His
				380					385					390
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr
				395					400					405
Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp
				410					415					420
Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val
				425					430					435
Leu	Tyr	Val	Trp	Thr	Leu	Val	Ala	Pro	Leu	Val	Leu	Thr	Asn	Arg
				440					445					450
Asp	Phe	Asp												

<210> 74  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

<400> 74  
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 ataccatggt tgtgtggaag tgccccgtgt ttgctatgcc gatgctgtcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttgagat atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaag gtgttgtccc 300  
 ttgtaacatt ttggttggt ataaagctgt atatcgtttg tgctttggtt 350  
 tggctatggt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400

agcagtgatc ctagagctgc agtgcacaat ggattttggt tctttaaatt 450  
tgctgcagca attgcaatta ttattggggc 480

<210> 75

<211> 438

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323

<223> unknown base

<400> 75

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tgctgtccta gtggaacaaa ntccactgta attagattga tntatgcact 150  
tttnttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200  
tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250  
gttgtccctt gtaacatttt gggttgctat aaagctgtat atngtttgtg 300  
ctttggtttg gctangttct atntttcttct ctctttacta atgatcaaag 350  
tgaagagtag cagtgatcct agagctgcag tgcacaatgg attttggttt 400  
tttaaatttg ctgcagcaat tgcaattatt attggggc 438

<210> 76

<211> 473

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 48

<223> unknown base

<400> 76

aagaagctgt ctccatcttg totgtatccg ctgctcttgt gaacgttntg 50  
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gtttgtgtgg aagtgccccg tgtttgctat gccgatgctg tcttagtgga 150  
aacaactcca ctgtaactag attgatctat gcacttttct tgcttggttg 200  
agtatgtgta gcttgtgtaa tgttgatacc aggaatggaa gaacaactga 250  
ataagattcc tggattttgt gagaatgaga aaggtgttgt ccottgtaac 300  
attttggttg gctataaagc tgtatatcgt ttgtgctttg gtttggtat 350  
gttctatctt cttctctctt tactaatgat caaagtgaag agtagcagtg 400  
atcctagagc tgcagtgcac aatggatttt gggtctttaa atttgctgca 450  
gcaattgcaa ttattattgg ggc 473



<210> 77  
<211> 666  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 21, 111  
<223> unknown base

<400> 77  
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caggattgga ngaacaactg aataagattc ctggattttt gtgagaatga 150  
gaaaggtggt gtccccttgt aacatttttg gttggctata aagctgtata 200  
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cttcattcca gaaggaaact ttacaactgt gtgggtttat gtaggcattg 400  
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gcacattcat ggaatgaatc gtgggttgaa aaaatggaag aagggaactc 500  
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tgtctttagt tgctatcgtc ctgttctttg tctactacac tcatccagcc 600  
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tggtgcttct gtaatg 666

<210> 78  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 78  
atgtttgtgt ggaagtgccg cg 22

<210> 79  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
gtcaacatgc tcctctgc 18

<210> 80  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
aatccattgt gcactgcagc tctagg 26

<210> 81  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
gagcatgcca ccactggact gac 23

<210> 82  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
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gcac 54

<210> 83  
<211> 3906  
<212> DNA  
<213> Homo sapiens

<400> 83  
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cgcgaggctt tcggcaaagg cagtcgagtg ttgcagacc ggggcgagtc 150  
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ctcaciaaagg aaaacggaga gagcgagcga gagagatttc cttggaaatt 3550  
tctcccaagg gcgaaagtca ttggaatttt taaatcatag gggaaaagca 3600  
gtcctgttct aaatcctctt attcttttgg tttgtcacia agaaggaact 3650  
aagaagcagg acagaggcaa cgtggagagg ctgaaaacag tgacagagacg 3700  
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aaacctgggt tgcctctgaa gaaactgcct tcattgtata tatgtgacta 3800

tttacatgta atcaacatgg gaacttttag gggaacctaa taagaaatcc 3850  
 caattttcag gagtggtggt gtcaataaac gctctgtggc cagtgtaaaa 3900  
 gaaaaa 3906

<210> 84  
 <211> 867  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
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 1 5 10 15  
 Phe Ser Leu Leu Gly Gly Ser Ser Ala Phe Leu Ser His His Arg  
 20 25 30  
 Leu Lys Gly Arg Phe Gln Arg Asp Arg Arg Asn Ile Arg Pro Asn  
 35 40 45  
 Ile Ile Leu Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser  
 50 55 60  
 Met Gln Val Met Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly  
 65 70 75  
 Ala His Phe Ile Asn Ala Phe Val Thr Thr Pro Met Cys Cys Pro  
 80 85 90  
 Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His Asn His Asn  
 95 100 105  
 Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp Gln Ala  
 110 115 120  
 Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr Gly  
 125 130 135  
 Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly  
 140 145 150  
 Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys  
 155 160 165  
 Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys  
 170 175 180  
 Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu  
 185 190 195  
 Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met  
 200 205 210  
 Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro  
 215 220 225  
 His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro  
 230 235 240  
 Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn  
 245 250 255



Pro	Glu	Asp	Gln	Asp	Asp	Lys	Asp	Gly	Gly	Asp	Phe	Ser	Gly	Thr	
				575					580					585	
Gly	Gly	Leu	Pro	Asp	Tyr	Ser	Ala	Ala	Asn	Pro	Ile	Lys	Val	Thr	
				590					595					600	
His	Arg	Cys	Tyr	Ile	Leu	Glu	Asn	Asp	Thr	Val	Gln	Cys	Asp	Leu	
				605					610					615	
Asp	Leu	Tyr	Lys	Ser	Leu	Gln	Ala	Trp	Lys	Asp	His	Lys	Leu	His	
				620					625					630	
Ile	Asp	His	Glu	Ile	Glu	Thr	Leu	Gln	Asn	Lys	Ile	Lys	Asn	Leu	
				635					640					645	
Arg	Glu	Val	Arg	Gly	His	Leu	Lys	Lys	Lys	Arg	Pro	Glu	Glu	Cys	
				650					655					660	
Asp	Cys	His	Lys	Ile	Ser	Tyr	His	Thr	Gln	His	Lys	Gly	Arg	Leu	
				665					670					675	
Lys	His	Arg	Gly	Ser	Ser	Leu	His	Pro	Phe	Arg	Lys	Gly	Leu	Gln	
				680					685					690	
Glu	Lys	Asp	Lys	Val	Trp	Leu	Leu	Arg	Glu	Gln	Lys	Arg	Lys	Lys	
				695					700					705	
Lys	Leu	Arg	Lys	Leu	Leu	Lys	Arg	Leu	Gln	Asn	Asn	Asp	Thr	Cys	
				710					715					720	
Ser	Met	Pro	Gly	Leu	Thr	Cys	Phe	Thr	His	Asp	Asn	Gln	His	Trp	
				725					730					735	
Gln	Thr	Ala	Pro	Phe	Trp	Thr	Leu	Gly	Pro	Phe	Cys	Ala	Cys	Thr	
				740					745					750	
Ser	Ala	Asn	Asn	Asn	Thr	Tyr	Trp	Cys	Met	Arg	Thr	Ile	Asn	Glu	
				755					760					765	
Thr	His	Asn	Phe	Leu	Phe	Cys	Glu	Phe	Ala	Thr	Gly	Phe	Leu	Glu	
				770					775					780	
Tyr	Phe	Asp	Leu	Asn	Thr	Asp	Pro	Tyr	Gln	Leu	Met	Asn	Ala	Val	
				785					790					795	
Asn	Thr	Leu	Asp	Arg	Asp	Val	Leu	Asn	Gln	Leu	His	Val	Gln	Leu	
				800					805					810	
Met	Glu	Leu	Arg	Ser	Cys	Lys	Gly	Tyr	Lys	Gln	Cys	Asn	Pro	Arg	
				815					820					825	
Thr	Arg	Asn	Met	Asp	Leu	Asp	Gly	Gly	Ser	Tyr	Glu	Gln	Tyr	Arg	
				830					835					840	
Gln	Phe	Gln	Arg	Arg	Lys	Trp	Pro	Glu	Met	Lys	Arg	Pro	Ser	Ser	
				845					850					855	
Lys	Ser	Leu	Gly	Gln	Leu	Trp	Glu	Gly	Trp	Glu	Gly				
				860					865						

<210> 85  
 <211> 19  
 <212> DNA





<210> 91  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 91  
 tagtacttgg gcacgaggtt ggag 24

<210> 92  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 92  
 tcataccaac tgctggtcat tggc 24

<210> 93  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 93  
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<210> 94  
 <211> 971  
 <212> DNA  
 <213> Homo sapiens

<400> 94  
 aacaaagtgc agtgactgag agggctgagc ggaggctgct gaaggggaga 50  
 aaggagtgag gagctgctgg gcagagaggg actgtccggc tcccagatgc 100  
 tgggcctcct ggggagcaca gccctcgtgg gatggatcac aggtgctgct 150  
 gtggcgggtc tgctgctgct gctgctgctg gccacctgcc ttttccacgg 200  
 acggcaggac tgtgacgtgg agaggaaccg tacagctgca gggggaaacc 250  
 gagtccgccc ggcccagcct tggcccttcc ggcgggcggg ccacctggga 300  
 atctttcacc atcaccgtca tcctggccac gtatctcatg tgccgaatgt 350  
 gggcctccac caccaccacc acccccgcga caccctcac cacctccacc 400  
 accaccacca cccccaccgc caccatcccc gccacgctcg ctgaggctgc 450  
 tgtgcgcggt gcctgtggac agcagctgcc cctgccctcc catctgttcc 500  
 caggacaagt ggaccccatg tttccatgtg gaaggatgca tctctggggt 550  
 gaacgagggg aacaatagac tggggcttgc tccagctgca tttgcatggc 600

atgccccagt gtactatggc agcagagaat ggaggaacac tgggtctgca 650  
 gtgctgaagg gtttggggag tggagagcaa ggggtgctctt tcggggctgg 700  
 acagcccgtc ttgtgacagt gactcccagt gagccccaga aatgacaagc 750  
 gtgtcttggc agagccagca cacaagtgga tgtgaagtgc ccgtcttgac 800  
 ctccatcatca ggctgctgca ggcctctggc gggcagggca ctgggagagg 850  
 ccctgagaat gtccttttgg tttggagaag gcagtgtgag gctgcacagt 900  
 caattcatcg gtgccttagt ccaagaaaat aaaaaccact aagaagcttt 950  
 aaaaaaaaaa aaaaaaaaaa a 971

<210> 95  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Met Leu Gly Leu Leu Gly Ser Thr Ala Leu Val Gly Trp Ile Thr  
 1 5 10 15  
 Gly Ala Ala Val Ala Val Leu Leu Leu Leu Leu Leu Ala Thr  
 20 25 30  
 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
 35 40 45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
 50 55 60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
 65 70 75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
 80 85 90  
 His His Pro Arg His Thr Pro His His Leu His His His His His  
 95 100 105  
 Pro His Arg His His Pro Arg His Ala Arg  
 110 115

<210> 96  
 <211> 1312  
 <212> DNA  
 <213> Homo sapiens

<400> 96  
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 tcggacctgc tactactggg cctgattggg ggcctgactc tcttactgct 100  
 gctgacgctg ctggcctttg ccgggtactc agggctactg gctgggggtgg 150  
 aagtgagtgc tgggtcaccc cccatccgca acgtcactgt ggccctacaag 200  
 ttccacatgg ggctctatgg tgagactggg cggcttttca ctgagagctg 250  
 cagcatctct cccaagctcc gctccatcgc tgtctactat gacaaccccc 300

acatggtgcc ccctgataag tgccgatgtg ccgtgggcag catcctgagt 350  
 gaaggtgagg aatcgccctc ccctgagctc atcgacctct accagaaatt 400  
 tggcttcaag gtgtttctct tcccggaacc cagccatgtg gtgacagcca 450  
 cttcccccta caccaccatt ctgtccatct ggctggctac ccgccgtgtc 500  
 catcctgcct tggacaccta catcaaggag cggaagctgt gtgcctatcc 550  
 tcggctggag atctaccagg aagaccagat ccatttcatg tgccactgg 600  
 cacggcaggg agactttctat gtgcctgaga tgaaggagac agagtggaaa 650  
 tggcgggggc ttgtggaggc cattgacacc caggtggatg gcacaggagc 700  
 tgacacaatg agtgacacga gttctgtaag cttggaagtg agccctggca 750  
 gccgggagac ttcagctgcc acactgtcac ctggggcgag cagccgtggc 800  
 tgggatgacg gtgacacccg cagcgagcac agctacagcg agtcaggtgc 850  
 cagcggctcc tcttttgagg agctggactt ggagggcgag gggcccttag 900  
 gggagtcacg gctggaccct gggactgagc ccctggggac taccaagtgg 950  
 ctctgggagc cactgcccc tgagaagggc aaggagtaac ccatggcctg 1000  
 caccctcctg cagtgcagtt gctgaggaac tgagcagact ctccagcaga 1050  
 ctctccagcc ctcttcctcc ttcctctggg ggaggagggg ttcctgaggg 1100  
 acctgacttc ccctgctcca ggctctttgc taagccttct cctcactgcc 1150  
 ctttaggctc ccagggccag aggagccagg gactattttc tgcaccagcc 1200  
 ccagggctg ccgccctgt tgtgtctttt tttcagactc acagtggagc 1250  
 ttccaggacc cagaataaag ccaatgattt acttgtttca cctggaaaaa 1300  
 aaaaaaaaaa aa 1312

<210> 97  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Met Ser Asp Leu Leu Leu Gly Leu Ile Gly Gly Leu Thr Leu  
 1 5 10 15  
 Leu Leu Leu Leu Thr Leu Leu Ala Phe Ala Gly Tyr Ser Gly Leu  
 20 25 30  
 Leu Ala Gly Val Glu Val Ser Ala Gly Ser Pro Pro Ile Arg Asn  
 35 40 45  
 Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
 50 55 60  
 Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
 65 70 75

Ser	Ile	Ala	Val	Tyr	Tyr	Asp	Asn	Pro	His	Met	Val	Pro	Pro	Asp	
				80					85					90	
Lys	Cys	Arg	Cys	Ala	Val	Gly	Ser	Ile	Leu	Ser	Glu	Gly	Glu	Glu	
				95					100					105	
Ser	Pro	Ser	Pro	Glu	Leu	Ile	Asp	Leu	Tyr	Gln	Lys	Phe	Gly	Phe	
				110					115					120	
Lys	Val	Phe	Ser	Phe	Pro	Ala	Pro	Ser	His	Val	Val	Thr	Ala	Thr	
				125					130					135	
Phe	Pro	Tyr	Thr	Thr	Ile	Leu	Ser	Ile	Trp	Leu	Ala	Thr	Arg	Arg	
				140					145					150	
Val	His	Pro	Ala	Leu	Asp	Thr	Tyr	Ile	Lys	Glu	Arg	Lys	Leu	Cys	
				155					160					165	
Ala	Tyr	Pro	Arg	Leu	Glu	Ile	Tyr	Gln	Glu	Asp	Gln	Ile	His	Phe	
				170					175					180	
Met	Cys	Pro	Leu	Ala	Arg	Gln	Gly	Asp	Phe	Tyr	Val	Pro	Glu	Met	
				185					190					195	
Lys	Glu	Thr	Glu	Trp	Lys	Trp	Arg	Gly	Leu	Val	Glu	Ala	Ile	Asp	
				200					205					210	
Thr	Gln	Val	Asp	Gly	Thr	Gly	Ala	Asp	Thr	Met	Ser	Asp	Thr	Ser	
				215					220					225	
Ser	Val	Ser	Leu	Glu	Val	Ser	Pro	Gly	Ser	Arg	Glu	Thr	Ser	Ala	
				230					235					240	
Ala	Thr	Leu	Ser	Pro	Gly	Ala	Ser	Ser	Arg	Gly	Trp	Asp	Asp	Gly	
				245					250					255	
Asp	Thr	Arg	Ser	Glu	His	Ser	Tyr	Ser	Glu	Ser	Gly	Ala	Ser	Gly	
				260					265					270	
Ser	Ser	Phe	Glu	Glu	Leu	Asp	Leu	Glu	Gly	Glu	Gly	Pro	Leu	Gly	
				275					280					285	
Glu	Ser	Arg	Leu	Asp	Pro	Gly	Thr	Glu	Pro	Leu	Gly	Thr	Thr	Lys	
				290					295					300	
Trp	Leu	Trp	Glu	Pro	Thr	Ala	Pro	Glu	Lys	Gly	Lys	Glu			
				305					310						

<210> 98  
 <211> 725  
 <212> DNA  
 <213> Homo sapiens

<400> 98  
 ccgcgggaac gctgtcctgg ctgccgccac ccgaacagcc tgtcctggtg 50  
 ccccggtcc ctgccccgcg ccagtcattg accctgcgcc cctcactcct 100  
 cccgtccat ctgtgtgtgc tgtgtgtgt cagtgcggcg gtgtgccggg 150  
 ctgaggctgg gctcgaaacc gaaagtcccg tccggaccct ccaagtggag 200  
 accctggtgg agccccaga accatgtgcc gagcccgtg cttttggaga 250

cacgcttcac atacactaca cggaagctt ggtagatgga cgtattattg 300  
acacctccct gaccagagac cctctgggta tagaacttgg ccaaaagcag 350  
gtgattccag gtctggagca gagtcttctc gacatgtgtg tgggagagaa 400  
gcgaagggca atcattcctt ctacttggc ctatggaaaa cggggatttc 450  
caccatctgt cccagcggat gcagtgggtc agtatgacgt ggagctgatt 500  
gcactaatcc gagccaacta ctggctaaag ctggtgaagg gcattttgcc 550  
tctggtaggg atggccatgg tgccagccct cctgggcctc attgggtatc 600  
acctatacag aaaggccaat agacccaaag tctccaaaaa gaagctcaag 650  
gaagagaaaac gaaacaagag caaaaagaaa taataaataa taaattttaa 700  
aaaacttaaa aaaaaaaaaa aaaaa 725

<210> 99  
<211> 201  
<212> PRT  
<213> Homo sapiens

<400> 99  
Met Thr Leu Arg Pro Ser Leu Leu Pro Leu His Leu Leu Leu Leu  
1 5 10 15  
Leu Leu Leu Ser Ala Ala Val Cys Arg Ala Glu Ala Gly Leu Glu  
20 25 30  
Thr Glu Ser Pro Val Arg Thr Leu Gln Val Glu Thr Leu Val Glu  
35 40 45  
Pro Pro Glu Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu  
50 55 60  
His Ile His Tyr Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp  
65 70 75  
Thr Ser Leu Thr Arg Asp Pro Leu Val Ile Glu Leu Gly Gln Lys  
80 85 90  
Gln Val Ile Pro Gly Leu Glu Gln Ser Leu Leu Asp Met Cys Val  
95 100 105  
Gly Glu Lys Arg Arg Ala Ile Ile Pro Ser His Leu Ala Tyr Gly  
110 115 120  
Lys Arg Gly Phe Pro Pro Ser Val Pro Ala Asp Ala Val Val Gln  
125 130 135  
Tyr Asp Val Glu Leu Ile Ala Leu Ile Arg Ala Asn Tyr Trp Leu  
140 145 150  
Lys Leu Val Lys Gly Ile Leu Pro Leu Val Gly Met Ala Met Val  
155 160 165  
Pro Ala Leu Leu Gly Leu Ile Gly Tyr His Leu Tyr Arg Lys Ala  
170 175 180  
Asn Arg Pro Lys Val Ser Lys Lys Lys Leu Lys Glu Glu Lys Arg

185

190

195

Asn Lys Ser Lys Lys Lys  
200

<210> 100  
<211> 705  
<212> DNA  
<213> Homo sapiens

<400> 100  
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ccggtccctt gccccgcgcc cagtcattgac cctgcgcccc tcaactcctcc 100  
cgctccatct gctgctgctg ctgctgctca gtgcggcggt gtgccgggct 150  
gaggtggtgc tcgaaaccga aagtcccgtc cggaccctcc aagtggagac 200  
cctggtggag cccccagaac catgtgccga gcccgtgct tttggagaca 250  
cgcttcacat aactacacg ggaagcttgg tagatggacg tattattgac 300  
acctccctga ccagagaccc tctggttata gaacttggcc aaaagcaggt 350  
gattccaggt ctggagcaga gtcttctcga catgtgtgtg ggagagaagc 400  
gaagggaat cattccttct cacttggcct atggaaaacg gggatttcca 450  
ccatctgtcc cagcggatgc agtgggtcag tatgacgtgg agctgattgc 500  
actaatccga gccaaactact ggctaaagct ggtgaagggc attttgcctc 550  
tggtagggat ggccatggtg ccaccctcct gggcctcatt gggatcacc 600  
tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
gagaaacgaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 101  
ccgaaagtcc cgtccggacc ctccaagtgg agaccctggt ggagccccca 50  
gaaccatgtg ccgagccgcg tgcttttggg gacacgcttc acatacacta 100  
cacgggaagc ttggtagatg gacgtattat tgacacctcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
cagagtcttc tcgacatgtg tgtgggagag aagcgaaggg caatcattcc 250  
ttctcacttg gcctatggaa aacggggatt tccaccatct gtcccagcgg 300  
atgcagtggg gcagtatgac gtggagctga ttgcactaat ccgagccaac 350  
tactggctaa agctggtgaa gggcattttg cctctggtag ggatggccat 400

ggtgccagcc ctcttgggccc tcattgggta tcacctatac agaaaggcca 450  
 atagacccaa agtctccaaa aagaagctca aggaagagaa acgaaacaag 500  
 agcaaaaaga aataataaat aataaatttt aaaaaactta aaa 543

<210> 102  
 <211> 1316  
 <212> DNA  
 <213> Homo sapiens

<400> 102  
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 aaatcggggg agtgaggcgg gccggcgcg cgcgacaccg ggctccggaa 100  
 ccaactgcacg acgggggctgg actgacctga aaaaaatgtc tggatttcta 150  
 gagggcttga gatgctcaga atgcattgac tggggggaaa agcgcaatac 200  
 tattgcttcc attgctgctg gtgtactatt ttttacaggc tgggtggatta 250  
 tcatagatgc agctgttatt tatcccacca tgaaagattt caaccactca 300  
 taccatgcct gtgggtgttat agcaaccata gccttcctaa tgattaatgc 350  
 agtatcgaat ggacaagtcc gaggtgatag ttacagtga ggttgtctgg 400  
 gtcaaacagg tgctgcatt tggcttttcg ttggtttcat gttggccttt 450  
 ggatctctga ttgcatctat gtggattcct tttggagggt atgttgctaa 500  
 agaaaaagac atagtatacc ctggaattgc tgtatttttc cagaatgcct 550  
 tcatcttttt tggagggtcg gtttttaagt ttggccgcac tgaagactta 600  
 tggcagtga cacatctgat ttcccacagc acaacagccc tgcattgggt 650  
 tgtttgtttt ttactgctc actcccaacc ttttgtaatg ccattttcta 700  
 aacttatttc tgagtgtagt ctgagcttaa agttgtgtaa tactaaaaatc 750  
 acgagaacac ctaaaacaac accaaaaatc tattgtggta tgcacttgat 800  
 taacttataa aatgttagag gaaactttca catgaataat ttttgtcaaa 850  
 ttttatcatg gtataatttg taaaaataaa aagaaattac aaaagaaatt 900  
 atggatttgt caatgtaagt atttgtcata tctgagggtcc aaaaccacaa 950  
 tgaaagtgt ctgaagattt aatgtgttta ttcaaagtgt gtctcttctg 1000  
 tgtcaaagt taaatgaaat ataaacattt tttagttttt aaaatattcc 1050  
 gtgggtcaaaa ttcttctca ctataattgg tatttacttt taccaaaaat 1100  
 tctgtgaaca tgtaatgtaa ctggcttttg agggctctcc aaggggtgag 1150  
 tggacgtgtt ggaagagaga agcaccatgg tccagccacc aggtccctg 1200  
 tgtcccttcc atgggaaggt cttccgctgt gcctctcatt ccaagggcag 1250  
 gaagatgtga ctgagccatg acacgtgggt ctggtgggat gcacagtcac 1300

tccacatcca ccactg 1316

<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

Met Ser Gly Phe Leu Glu Gly Leu Arg Cys Ser Glu Cys Ile Asp  
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Trp Gly Glu Lys Arg Asn Thr Ile Ala Ser Ile Ala Ala Gly Val  
20 25 30  
Leu Phe Phe Thr Gly Trp Trp Ile Ile Ile Asp Ala Ala Val Ile  
35 40 45  
Tyr Pro Thr Met Lys Asp Phe Asn His Ser Tyr His Ala Cys Gly  
50 55 60  
Val Ile Ala Thr Ile Ala Phe Leu Met Ile Asn Ala Val Ser Asn  
65 70 75  
Gly Gln Val Arg Gly Asp Ser Tyr Ser Glu Gly Cys Leu Gly Gln  
80 85 90  
Thr Gly Ala Arg Ile Trp Leu Phe Val Gly Phe Met Leu Ala Phe  
95 100 105  
Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Gly Tyr Val  
110 115 120  
Ala Lys Glu Lys Asp Ile Val Tyr Pro Gly Ile Ala Val Phe Phe  
125 130 135  
Gln Asn Ala Phe Ile Phe Phe Gly Gly Leu Val Phe Lys Phe Gly  
140 145 150  
Arg Thr Glu Asp Leu Trp Gln  
155

<210> 104

<211> 545

<212> DNA

<213> Homo sapiens

<400> 104

ttcttggtcta aaatcggggg agtgaggcgg gccggcgcg cgcgacaccg 50  
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tggtatttcta gagggcttga gatgctcaga atgcattgac tggggggaaa 150  
agcgcaatac tattgcttcc attgctgctg gtgtactatt ttttacaggc 200  
tggtggatta tcatagatgc agctgttatt tatcccaacca tgaaagattt 250  
caaccactca taccatgcct gtggtgttat agcaaccata gccttcctaa 300  
tgattaatgc agtatcgaat ggacaagtcc gaggtgatag ttacagtga 350  
ggttgtctgg gtcaaacagg tgctcgcatt tggtttttcg ttggtttcat 400



gttggccttt ggatctctga ttgcatctat gtggattctt tttggagggtt 450  
 atgttgctaa agaaaaagac atagtatacc ctggaattgc tgtatttttc 500  
 cagaatgcct tcatctttttt tggagggctg gtttttaagt ttggc 545

<210> 105  
 <211> 490  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 31, 39, 108, 145, 179, 219, 412, 479  
 <223> unknown base

<400> 105  
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 tgggtgtaata ttttttacag gctggtggat tatcatagat gcagntgtta 150  
 tttatccac catgaaagat ttcaaccant cataccatgc ctgtggtgtt 200  
 atagcaacca tagccttont aatgattaat gcagtatcga atggacaagt 250  
 ccgaggtgat agttacagtg aagggttgtt gggtaaaca ggtgctcgca 300  
 tttggctttt cgttggtttc atgttggcct ttggatctct gattgcatct 350  
 atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 400  
 ccctggaatt gntgtatttt tcagaatgc cttcatcttt tttggagggc 450  
 tggtttttaa gtttggcgc actgaagant tatggcagtg 490

<210> 106  
 <211> 466  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
 <223> unknown base

<400> 106  
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 ggaaaagcgc aatantattg ctttccattg ctgctggtgt actatTTTTT 150  
 acagggtggt ggattatcat agatgcagct gttatttatc ccaccatgaa 200  
 agatttnaac cactcatacc atgcctgtgg tgttatagca accatagcct 250  
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 tttcatgttg gcctttggat ttctgattgn attctatgcg gattcttctt 400

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ggagggttatg ttgctaaaga aaaagacata gtataccctg gaattnctnt 450

atttttccag aatgcc 466

<210> 107

<211> 377

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356

<223> unknown base

<400> 107

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tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200

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tgggtcaaac aggtgntngc atttggcttt tngttgggtt catgttggtc 300

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taaagnaaaa gacatagtat accctgt 377

<210> 108

<211> 552

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 12, 25, 65, 130, 437, 537

<223> unknown base

<400> 108

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ggactgacct gaaaaaatg tttggatttn tagagggcctt gagatgctca 150

gaatgcattg actgggggga aaagcgcaat actattgctt ccattgctgc 200

tgggtgacta ttttttacag gctggtggat tatcatagat gcagctgtta 250

tttatccac catgaaagat ttcaaccact cataccatgc ctgtggtggtt 300

atagcaacca tagccttcct aatgattaat gcagtatcga atggacaagt 350

ccgaggtgat agttacagtg aaggttgtct ggggtcaaaca ggtgctcgca 400

tttggctttt cgttggtttc atgttggcct ttggatntot gattgcatct 450

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ccctggaatt gctgtatttt tccagaatgc cttcatnttt tttggagggc 550

tg 552

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<211> 23  
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<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 109  
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<210> 110  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

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<210> 111  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

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<210> 112  
<211> 3004  
<212> DNA  
<213> Homo sapiens

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ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccctggtaac 150  
tgacaaggag gccaggaaga aggttctcaa acaagotttt tcagccaacc 200  
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His	Tyr	Ile	Gly	Arg	Met	Glu	Glu	Gly	Ser	Ile	Gly	Arg	Phe	Ile	125	130	135
Leu	Asp	Gln	Ile	Thr	Glu	Gly	Gln	Leu	Asp	Trp	Ala	Pro	Leu	Ser	140	145	150
Ser	Pro	Phe	Asp	Ile	Met	Val	Leu	Glu	Gly	Pro	Asn	Gly	Arg	Lys	155	160	165
Glu	Tyr	Pro	Met	Tyr	Ser	Gly	Glu	Lys	Ala	Tyr	Ile	Gln	Gly	Leu	170	175	180
Lys	Glu	Lys	Phe	Pro	Gln	Glu	Glu	Ala	Ile	Ile	Asp	Lys	Tyr	Ile	185	190	195
Lys	Leu	Val	Lys	Val	Val	Ser	Ser	Gly	Ala	Pro	His	Ala	Ile	Leu	200	205	210
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Ser	Leu	Ala	Glu	Val	Leu	Gln	Gln	Leu	Gly	Ala	Ser	Ser	Glu	Leu	245	250	255
Gln	Ala	Val	Leu	Ser	Tyr	Ile	Phe	Pro	Thr	Tyr	Gly	Val	Thr	Pro	260	265	270
Asn	His	Ser	Ala	Phe	Ser	Met	His	Ala	Leu	Leu	Val	Asn	His	Tyr	275	280	285
Met	Lys	Gly	Gly	Phe	Tyr	Pro	Arg	Gly	Gly	Ser	Ser	Glu	Ile	Ala	290	295	300
Phe	His	Thr	Ile	Pro	Val	Ile	Gln	Arg	Ala	Gly	Gly	Ala	Val	Leu	305	310	315
Thr	Lys	Ala	Thr	Val	Gln	Ser	Val	Leu	Leu	Asp	Ser	Ala	Gly	Lys	320	325	330
Ala	Cys	Gly	Val	Ser	Val	Lys	Lys	Gly	His	Glu	Leu	Val	Asn	Ile	335	340	345
Tyr	Cys	Pro	Ile	Val	Val	Ser	Asn	Ala	Gly	Leu	Phe	Asn	Thr	Tyr	350	355	360
Glu	His	Leu	Leu	Pro	Gly	Asn	Ala	Arg	Cys	Leu	Pro	Gly	Val	Lys	365	370	375
Gln	Gln	Leu	Gly	Thr	Val	Arg	Pro	Gly	Leu	Gly	Met	Thr	Ser	Val	380	385	390
Phe	Ile	Cys	Leu	Arg	Gly	Thr	Lys	Glu	Asp	Leu	His	Leu	Pro	Ser	395	400	405
Thr	Asn	Tyr	Tyr	Val	Tyr	Tyr	Asp	Thr	Asp	Met	Asp	Gln	Ala	Met	410	415	420

Glu Arg Tyr Val	Ser Met Pro Arg Glu	Glu Ala Ala Glu His Ile	425	430	435
Pro Leu Leu Phe	Phe Ala Phe Pro Ser	Ala Lys Asp Pro Thr Trp	440	445	450
Glu Asp Arg Phe	Pro Gly Arg Ser Thr	Met Ile Met Leu Ile Pro	455	460	465
Thr Ala Tyr Glu	Trp Phe Glu Glu Trp	Gln Ala Glu Leu Lys Gly	470	475	480
Lys Arg Gly Ser	Asp Tyr Glu Thr Phe	Lys Asn Ser Phe Val Glu	485	490	495
Ala Ser Met Ser	Val Val Leu Lys Leu	Phe Pro Gln Leu Glu Gly	500	505	510
Lys Val Glu Ser	Val Thr Ala Gly Ser	Pro Leu Thr Asn Gln Phe	515	520	525
Tyr Leu Ala Ala	Pro Arg Gly Ala Cys	Tyr Gly Ala Asp His Asp	530	535	540
Leu Gly Arg Leu	His Pro Cys Val Met	Ala Ser Leu Arg Ala Gln	545	550	555
Ser Pro Ile Pro	Asn Leu Tyr Leu Thr	Gly Gln Asp Ile Phe Thr	560	565	570
Cys Gly Leu Val	Gly Ala Leu Gln Gly	Ala Leu Leu Cys Ser Ser	575	580	585
Ala Ile Leu Lys	Arg Asn Leu Tyr Ser	Asp Leu Lys Asn Leu Asp	590	595	600
Ser Arg Ile Arg	Ala Gln Lys Lys Lys	Asn	605	610	

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 <212> DNA  
 <213> Homo sapiens

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009354450

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<210> 115  
<211> 301  
<212> PRT  
<213> Homo sapiens

<400> 115  
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Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp  
20 25 30



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Lys	Asp	His	Thr	Thr	Ala	Gly	Arg	Val	Val	Ala	Gly	Gln	Ile	Phe	50	55	60
Leu	Asp	Ser	Glu	Glu	Ser	Glu	Leu	Glu	Ser	Ser	Ile	Gln	Glu	Glu	65	70	75
Glu	Asp	Ser	Leu	Lys	Ser	Gln	Glu	Gly	Glu	Ser	Val	Thr	Glu	Asp	80	85	90
Ile	Ser	Phe	Leu	Glu	Ser	Pro	Asn	Pro	Glu	Asn	Lys	Asp	Tyr	Glu	95	100	105
Glu	Pro	Lys	Lys	Val	Arg	Lys	Pro	Ala	Leu	Thr	Ala	Ile	Glu	Gly	110	115	120
Thr	Ala	His	Gly	Glu	Pro	Cys	His	Phe	Pro	Phe	Leu	Phe	Leu	Asp	125	130	135
Lys	Glu	Tyr	Asp	Glu	Cys	Thr	Ser	Asp	Gly	Arg	Glu	Asp	Gly	Arg	140	145	150
Leu	Trp	Cys	Ala	Thr	Thr	Tyr	Asp	Tyr	Lys	Ala	Asp	Glu	Lys	Trp	155	160	165
Gly	Phe	Cys	Glu	Thr	Glu	Glu	Glu	Ala	Ala	Lys	Arg	Arg	Gln	Met	170	175	180
Gln	Glu	Ala	Glu	Met	Met	Tyr	Gln	Thr	Gly	Met	Lys	Ile	Leu	Asn	185	190	195
Gly	Ser	Asn	Lys	Lys	Ser	Gln	Lys	Arg	Glu	Ala	Tyr	Arg	Tyr	Leu	200	205	210
Gln	Lys	Ala	Ala	Ser	Met	Asn	His	Thr	Lys	Ala	Leu	Glu	Arg	Val	215	220	225
Ser	Tyr	Ala	Leu	Leu	Phe	Gly	Asp	Tyr	Leu	Pro	Gln	Asn	Ile	Gln	230	235	240
Ala	Ala	Arg	Glu	Met	Phe	Glu	Lys	Leu	Thr	Glu	Glu	Gly	Ser	Pro	245	250	255
Lys	Gly	Gln	Thr	Ala	Leu	Gly	Phe	Leu	Tyr	Ala	Ser	Gly	Leu	Gly	260	265	270
Val	Asn	Ser	Ser	Gln	Ala	Lys	Ala	Leu	Val	Tyr	Tyr	Thr	Phe	Gly	275	280	285
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Leu

<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 116



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Thr	Thr	Val	Asp	Phe	Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val
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Arg	Ser	Asp	Val	Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu
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Tyr	Gly	Ala	Glu	Gly	Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly
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Gln	Lys	Phe	Val	Val	Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro
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Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu	Leu	Ile	Thr	Arg	Ala	Arg	Gln
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Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly
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Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys
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Pro	Pro	Gly	Pro	Pro	Val	Ala	Ser	Ser	Ser	Ser	Ala	Thr	Ser	Leu
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Pro	Trp	Pro	Val	Val	Ile	Gly	Ile	Pro	Ala	Gly	Ala	Val	Phe	Ile
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Leu	Gly	Thr	Leu	Leu	Leu	Trp	Leu	Cys	Gln	Ala	Gln	Lys	Lys	Pro
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Cys	Thr	Pro	Ala	Pro	Ala	Pro	Pro	Leu	Pro	Gly	His	Arg	Pro	Pro
				410					415					420
Gly	Thr	Ala	Arg	Asp	Arg	Ser	Gly	Asp	Lys	Asp	Leu	Pro	Ser	Leu
				425					430					435
Ala	Ala	Leu	Ser	Ala	Gly	Pro	Gly	Val	Gly	Leu	Cys	Glu	Glu	His
				440					445					450
Gly	Ser	Pro	Ala	Ala	Pro	Gln	His	Leu	Leu	Gly	Pro	Gly	Pro	Val
				455					460					465
Ala	Gly	Pro	Lys	Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Ile	His	Thr
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His	Thr	His	Thr	His	Ser	His	Thr	His	Ser	His	Val	Glu	Gly	Lys
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<210> 121

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

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<210> 123

<211> 4420

<212> DNA

<213> Homo sapiens

<400> 123

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 35 40 45  
 Pro Ala Asp Thr Leu Glu Ser Pro Gly Glu Trp Thr Thr Trp Phe  
 50 55 60  
 Asn Ile Asp Tyr Pro Gly Gly Lys Gly Asp Tyr Glu Arg Leu Asp  
 65 70 75  
 Ala Ile Arg Phe Tyr Tyr Gly Asp Arg Val Cys Ala Arg Pro Leu  
 80 85 90  
 Arg Leu Glu Ala Arg Thr Thr Asp Trp Thr Pro Ala Gly Ser Thr  
 95 100 105  
 Gly Gln Val Val His Gly Ser Pro Arg Glu Gly Phe Trp Cys Leu  
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 Asn Arg Glu Gln Arg Pro Gly Gln Asn Cys Ser Asn Tyr Thr Val  
 125 130 135  
 Arg Phe Leu Cys Pro Pro Gly Ser Leu Arg Arg Asp Thr Glu Arg  
 140 145 150  
 Ile Trp Ser Pro Trp Ser Pro Trp Ser Lys Cys Ser Ala Ala Cys  
 155 160 165  
 Gly Gln Thr Gly Val Gln Thr Arg Thr Arg Ile Cys Leu Ala Glu  
 170 175 180  
 Met Val Ser Leu Cys Ser Glu Ala Ser Glu Glu Gly Gln His Cys  
 185 190 195  
 Met Gly Gln Asp Cys Thr Ala Cys Asp Leu Thr Cys Pro Met Gly  
 200 205 210

Gln	Val	Asn	Ala	Asp	Cys	Asp	Ala	Cys	Met	Cys	Gln	Asp	Phe	Met	215	220	225
Leu	His	Gly	Ala	Val	Ser	Leu	Pro	Gly	Gly	Ala	Pro	Ala	Ser	Gly	230	235	240
Ala	Ala	Ile	Tyr	Leu	Leu	Thr	Lys	Thr	Pro	Lys	Leu	Leu	Thr	Gln	245	250	255
Thr	Asp	Ser	Asp	Gly	Arg	Phe	Arg	Ile	Pro	Gly	Leu	Cys	Pro	Asp	260	265	270
Gly	Lys	Ser	Ile	Leu	Lys	Ile	Thr	Lys	Val	Lys	Phe	Ala	Pro	Ile	275	280	285
Val	Leu	Thr	Met	Pro	Lys	Thr	Ser	Leu	Lys	Ala	Ala	Thr	Ile	Lys	290	295	300
Ala	Glu	Phe	Val	Arg	Ala	Glu	Thr	Pro	Tyr	Met	Val	Met	Asn	Pro	305	310	315
Glu	Thr	Lys	Ala	Arg	Arg	Ala	Gly	Gln	Ser	Val	Ser	Leu	Cys	Cys	320	325	330
Lys	Ala	Thr	Gly	Lys	Pro	Arg	Pro	Asp	Lys	Tyr	Phe	Trp	Tyr	His	335	340	345
Asn	Asp	Thr	Leu	Leu	Asp	Pro	Ser	Leu	Tyr	Lys	His	Glu	Ser	Lys	350	355	360
Leu	Val	Leu	Arg	Lys	Leu	Gln	Gln	His	Gln	Ala	Gly	Glu	Tyr	Phe	365	370	375
Cys	Lys	Ala	Gln	Ser	Asp	Ala	Gly	Ala	Val	Lys	Ser	Lys	Val	Ala	380	385	390
Gln	Leu	Ile	Val	Thr	Ala	Ser	Asp	Glu	Thr	Pro	Cys	Asn	Pro	Val	395	400	405
Pro	Glu	Ser	Tyr	Leu	Ile	Arg	Leu	Pro	His	Asp	Cys	Phe	Gln	Asn	410	415	420
Ala	Thr	Asn	Ser	Phe	Tyr	Tyr	Asp	Val	Gly	Arg	Cys	Pro	Val	Lys	425	430	435
Thr	Cys	Ala	Gly	Gln	Gln	Asp	Asn	Gly	Ile	Arg	Cys	Arg	Asp	Ala	440	445	450
Val	Gln	Asn	Cys	Cys	Gly	Ile	Ser	Lys	Thr	Glu	Glu	Arg	Glu	Ile	455	460	465
Gln	Cys	Ser	Gly	Tyr	Thr	Leu	Pro	Thr	Lys	Val	Ala	Lys	Glu	Cys	470	475	480
Ser	Cys	Gln	Arg	Cys	Thr	Glu	Thr	Arg	Ser	Ile	Val	Arg	Gly	Arg	485	490	495
Val	Ser	Ala	Ala	Asp	Asn	Gly	Glu	Pro	Met	Arg	Phe	Gly	His	Val	500	505	510
Tyr	Met	Gly	Asn	Ser	Arg	Val	Ser	Met	Thr	Gly	Tyr	Lys	Gly	Thr	515	520	525

Phe Thr Leu His Val	Pro Gln Asp Thr	Glu Arg Leu Val Leu Thr	530	535	540
Phe Val Asp Arg Leu	Gln Lys Phe Val	Asn Thr Thr Lys Val Leu	545	550	555
Pro Phe Asn Lys Lys	Gly Ser Ala Val	Phe His Glu Ile Lys Met	560	565	570
Leu Arg Arg Lys Glu	Pro Ile Thr Leu	Glu Ala Met Glu Thr Asn	575	580	585
Ile Ile Pro Leu Gly	Glu Val Val Gly	Glu Asp Pro Met Ala Glu	590	595	600
Leu Glu Ile Pro Ser	Arg Ser Phe Tyr	Arg Gln Asn Gly Glu Pro	605	610	615
Tyr Ile Gly Lys Val	Lys Ala Ser Val	Thr Phe Leu Asp Pro Arg	620	625	630
Asn Ile Ser Thr Ala	Thr Ala Ala Gln	Thr Asp Leu Asn Phe Ile	635	640	645
Asn Asp Glu Gly Asp	Thr Phe Pro Leu	Arg Thr Tyr Gly Met Phe	650	655	660
Ser Val Asp Phe Arg	Asp Glu Val Thr	Ser Glu Pro Leu Asn Ala	665	670	675
Gly Lys Val Lys Val	His Leu Asp Ser	Thr Gln Val Lys Met Pro	680	685	690
Glu His Ile Ser Thr	Val Lys Leu Trp	Ser Leu Asn Pro Asp Thr	695	700	705
Gly Leu Trp Glu Glu	Glu Gly Asp Phe	Lys Phe Glu Asn Gln Arg	710	715	720
Arg Asn Lys Arg Glu	Asp Arg Thr Phe	Leu Val Gly Asn Leu Glu	725	730	735
Ile Arg Glu Arg Arg	Leu Phe Asn Leu	Asp Val Pro Glu Ser Arg	740	745	750
Arg Cys Phe Val Lys	Val Arg Ala Tyr	Arg Ser Glu Arg Phe Leu	755	760	765
Pro Ser Glu Gln Ile	Gln Gly Val Val	Ile Ser Val Ile Asn Leu	770	775	780
Glu Pro Arg Thr Gly	Phe Leu Ser Asn	Pro Arg Ala Trp Gly Arg	785	790	795
Phe Asp Ser Val Ile	Thr Gly Pro Asn	Gly Ala Cys Val Pro Ala	800	805	810
Phe Cys Asp Asp Gln	Ser Pro Asp Ala	Tyr Ser Ala Tyr Val Leu	815	820	825
Ala Ser Leu Ala Gly	Glu Glu Leu Gln	Ala Val Glu Ser Ser Pro	830	835	840

Lys	Phe	Asn	Pro	Asn	Ala	Ile	Gly	Val	Pro	Gln	Pro	Tyr	Leu	Asn		845	850	855
Lys	Leu	Asn	Tyr	Arg	Arg	Thr	Asp	His	Glu	Asp	Pro	Arg	Val	Lys		860	865	870
Lys	Thr	Ala	Phe	Gln	Ile	Ser	Met	Ala	Lys	Pro	Arg	Pro	Asn	Ser		875	880	885
Ala	Glu	Glu	Ser	Asn	Gly	Pro	Ile	Tyr	Ala	Phe	Glu	Asn	Leu	Arg		890	895	900
Ala	Cys	Glu	Glu	Ala	Pro	Pro	Ser	Ala	Ala	His	Phe	Arg	Phe	Tyr		905	910	915
Gln	Ile	Glu	Gly	Asp	Arg	Tyr	Asp	Tyr	Asn	Thr	Val	Pro	Phe	Asn		920	925	930
Glu	Asp	Asp	Pro	Met	Ser	Trp	Thr	Glu	Asp	Tyr	Leu	Ala	Trp	Trp		935	940	945
Pro	Lys	Pro	Met	Glu	Phe	Arg	Ala	Cys	Tyr	Ile	Lys	Val	Lys	Ile		950	955	960
Val	Gly	Pro	Leu	Glu	Val	Asn	Val	Arg	Ser	Arg	Asn	Met	Gly	Gly		965	970	975
Thr	His	Arg	Arg	Thr	Val	Gly	Lys	Leu	Tyr	Gly	Ile	Arg	Asp	Val		980	985	990
Arg	Ser	Thr	Arg	Asp	Arg	Asp	Gln	Pro	Asn	Val	Ser	Ala	Ala	Cys		995	1000	1005
Leu	Glu	Phe	Lys	Cys	Ser	Gly	Met	Leu	Tyr	Asp	Gln	Asp	Arg	Val		1010	1015	1020
Asp	Arg	Thr	Leu	Val	Lys	Val	Ile	Pro	Gln	Gly	Ser	Cys	Arg	Arg		1025	1030	1035
Ala	Ser	Val	Asn	Pro	Met	Leu	His	Glu	Tyr	Leu	Val	Asn	His	Leu		1040	1045	1050
Pro	Leu	Ala	Val	Asn	Asn	Asp	Thr	Ser	Glu	Tyr	Thr	Met	Leu	Ala		1055	1060	1065
Pro	Leu	Asp	Pro	Leu	Gly	His	Asn	Tyr	Gly	Ile	Tyr	Thr	Val	Thr		1070	1075	1080
Asp	Gln	Asp	Pro	Arg	Thr	Ala	Lys	Glu	Ile	Ala	Leu	Gly	Arg	Cys		1085	1090	1095
Phe	Asp	Gly	Thr	Ser	Asp	Gly	Ser	Ser	Arg	Ile	Met	Lys	Ser	Asn		1100	1105	1110
Val	Gly	Val	Ala	Leu	Thr	Phe	Asn	Cys	Val	Glu	Arg	Gln	Val	Gly		1115	1120	1125
Arg	Gln	Ser	Ala	Phe	Gln	Tyr	Leu	Gln	Ser	Thr	Pro	Ala	Gln	Ser		1130	1135	1140
Pro	Ala	Ala	Gly	Thr	Val	Gln	Gly	Arg	Val	Pro	Ser	Arg	Arg	Gln		1145	1150	1155

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<210> 126  
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<211> 438

<212> PRT

<213> Homo sapiens

<400> 129

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Val	Ser	Ser	Val	Met	Gln	Pro	Tyr	Pro	Leu	Val	Trp	Gly	His	Tyr
				20					25					30
Asp	Leu	Cys	Lys	Thr	Gln	Ile	Tyr	Thr	Glu	Glu	Gly	Lys	Val	Trp
				35					40					45
Asp	Tyr	Met	Ala	Cys	Gln	Pro	Glu	Ser	Thr	Asp	Met	Thr	Lys	Tyr
				50					55					60
Leu	Lys	Val	Lys	Leu	Asp	Pro	Pro	Asp	Ile	Thr	Cys	Gly	Asp	Pro
				65					70					75
Pro	Glu	Thr	Phe	Cys	Ala	Met	Gly	Asn	Pro	Tyr	Met	Cys	Asn	Asn
				80					85					90
Glu	Cys	Asp	Ala	Ser	Thr	Pro	Glu	Leu	Ala	His	Pro	Pro	Glu	Leu
				95					100					105
Met	Phe	Asp	Phe	Glu	Gly	Arg	His	Pro	Ser	Thr	Phe	Trp	Gln	Ser
				110					115					120
Ala	Thr	Trp	Lys	Glu	Tyr	Pro	Lys	Pro	Leu	Gln	Val	Asn	Ile	Thr



	125		130		135
Leu Ser Trp Ser	Lys Thr Ile Glu Leu	Thr Asp Asn Ile Val	Ile		
	140		145		150
Thr Phe Glu Ser	Gly Arg Pro Asp Gln	Met Ile Leu Glu Lys	Ser		
	155		160		165
Leu Asp Tyr Gly	Arg Thr Trp Gln Pro	Tyr Gln Tyr Tyr Ala	Thr		
	170		175		180
Asp Cys Leu Asp	Ala Phe His Met Asp	Pro Lys Ser Val Lys	Asp		
	185		190		195
Leu Ser Gln His	Thr Val Leu Glu Ile	Ile Cys Thr Glu Glu	Tyr		
	200		205		210
Ser Thr Gly Tyr	Thr Thr Asn Ser Lys	Ile Ile His Phe Glu	Ile		
	215		220		225
Lys Asp Arg Phe	Ala Leu Phe Ala Gly	Pro Arg Leu Arg Asn	Met		
	230		235		240
Ala Ser Leu Tyr	Gly Gln Leu Asp Thr	Thr Lys Lys Leu Arg	Asp		
	245		250		255
Phe Phe Thr Val	Thr Asp Leu Arg Ile	Arg Leu Leu Arg Pro	Ala		
	260		265		270
Val Gly Glu Ile	Phe Val Asp Glu Leu	His Leu Ala Arg Tyr	Phe		
	275		280		285
Tyr Ala Ile Ser	Asp Ile Lys Val Arg	Gly Arg Cys Lys Cys	Asn		
	290		295		300
Leu His Ala Thr	Val Cys Val Tyr Asp	Asn Ser Lys Leu Thr	Cys		
	305		310		315
Glu Cys Glu His	Asn Thr Thr Gly Pro	Asp Cys Gly Lys Cys	Lys		
	320		325		330
Lys Asn Tyr Gln	Gly Arg Pro Trp Ser	Pro Gly Ser Tyr Leu	Pro		
	335		340		345
Ile Pro Lys Gly	Thr Ala Asn Thr Cys	Ile Pro Ser Ile Ser	Ser		
	350		355		360
Ile Gly Thr Asn	Val Cys Asp Asn Glu	Leu Leu His Cys Gln	Asn		
	365		370		375
Gly Gly Thr Cys	His Asn Asn Val Arg	Cys Leu Cys Pro Ala	Ala		
	380		385		390
Tyr Thr Gly Ile	Leu Cys Glu Lys Leu	Arg Cys Glu Glu Ala	Gly		
	395		400		405
Ser Cys Gly Ser	Asp Ser Gly Gln Gly	Ala Pro Pro His Gly	Thr		
	410		415		420
Pro Ala Leu Leu	Leu Leu Thr Thr Leu	Leu Gly Thr Ala Ser	Pro		
	425		430		435
Leu Val Phe					

<210> 130  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 130  
 tcgattatgg acgaacatgg cagc 24

<210> 131  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 131  
 ttctgagatc cctcatcctc 20

<210> 132  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 132  
 aggttcaggg acagcaagtt tggg 24

<210> 133  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 133  
 tttgctggac ctcggctacg gaattggctt ccctctacgg acagctggat 50

<210> 134  
 <211> 1493  
 <212> DNA  
 <213> Homo sapiens

<400> 134  
 cccacgcgtc cgggtgacct gggccgagcc ctcccggtcg gctaagattg 50  
 ctgaggaggc ggcgggtagc tggcaggcgc cgacttccga aggccgccgt 100  
 ccgggcgagg tgtcctcatg acttctcttg tggaccatgt ccgtgatctt 150  
 ttttgcctgc gtggtacggg taagggatgg actgcccctc tcagcctcta 200  
 ctgatttttta ccacacccaa gatttttttg aatggaggag acggctcaag 250  
 agtttagcct tgcgactggc ccagtatcca ggctcgaggtt ctgcagaagg 300

ttgtgacttt agtatacatt tttcttcttt cggggacgtg gcctgcatgg 350  
ctatctgctc ctgccagtgt ccagcagcca tggccttctg cttcctggag 400  
accctgtggg gggaattcac agcttcctat gacactacct gcattggcct 450  
agcctccagg ccatacgctt ttcttgagtt tgacagcatc attcagaaaag 500  
tgaagtggca ttttaactat gtaagttcct ctcagatgga gtgcagcttg 550  
gaaaaaattc aggaggagct caagttgcag cctccagcgg ttctcactct 600  
ggaggacaca gatgtggcaa atggggtgat gaatgggtcac acaccgatgc 650  
acttgagacc tgctcctaatt ttccgaatgg aaccagtgc agccctgggt 700  
atcctctccc tcattctcaa catcatgtgt gctgccctga atctcattcg 750  
aggagttcac cttgcagaac attctttaca ggatccaagg agctggttct 800  
gctggttga ccaaacctcg tgagccagcc acccctgacc caaatgagga 850  
gagctctgat tctcccatcc gggagcagtg atgtcaaact tctgctgctg 900  
gggaaatctc atcagcaggg agcctgtgga aaagggcatg tcagtgaat 950  
ctgggaatgg ctggattcgg aaacatctgc ccatgtgtat tgatggcaga 1000  
gctgttgccc acaagcgcct tttatttagg gtaaaattaa caaatccatt 1050  
ctattcctct gacctatgct tagtacatat gacctttaac cettacattt 1100  
atatgattct ggggttgctt cagaagtgtt atttcatgaa tcattcatat 1150  
gatttgatcc cccaggattc tattttgttt aatgggcttt tctactaaaa 1200  
gcataaaata ctgaggctga tttagtcagg gcaaaacat ttactttaca 1250  
tattogtttt caatacttgc tgttcatgtt acacaagctt cttacggttt 1300  
tcttgtaaca ataaatatat tgagtaaata atgggtacat tttacaaaac 1350  
tcagtagtac aacctaaact tgtataaaag tgtgtaaaaa tgtatagcca 1400  
tttatatcct atgtataaat taaatgaggt ggcttcagaa atggcagaat 1450  
aaatctaaag tgttttattaa aaaaaaaaaa aaaaaaaaaa aag 1493

<210> 135  
<211> 228  
<212> PRT  
<213> Homo sapiens

<400> 135  
Met Ser Val Ile Phe Phe Ala Cys Val Val Arg Val Arg Asp Gly  
1 5 10 15  
Leu Pro Leu Ser Ala Ser Thr Asp Phe Tyr His Thr Gln Asp Phe  
20 25 30  
Leu Glu Trp Arg Arg Arg Leu Lys Ser Leu Ala Leu Arg Leu Ala  
35 40 45

Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile	50	55	60
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser	65	70	75
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu	80	85	90
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu	95	100	105
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln	110	115	120
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu	125	130	135
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro	140	145	150
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met	155	160	165
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg	170	175	180
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn	185	190	195
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala	200	205	210
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp	215	220	225
Gln	Thr	Ser															

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
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 ctgcattggc nttagcctcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 ggttctcant atggaggaca cagatgtggc aaatgggggt 239

<210> 137  
 <211> 2300  
 <212> DNA

**60**

**60**

**60**

tgtctcctgg tcctaagctc agcacttcoct gtcttctctc gaaccctggg 1550  
gctcactcgc tttgacctgc tgggtgaactt tggacgcttc aactggctgg 1600  
gcaatttcta cattgtgttc ctctacaacg cagcctttgc aggctcacc 1650  
acactctgtc tggatgaagac cttcactgca gctgtgcggg cagagctgat 1700  
ccgggccttt gggctggaca gactgccgct gcccgctctcc gggttccccc 1750  
aggcatctag gaagacccag caccagtgc ctccagctgg gggtaggaag 1800  
gaaaaaactg gacactgcca tctgctgcct aggcctggag ggaagccaa 1850  
ggctacttgg acctcaggac ctggaatctg agaggggtggg tggcagaggg 1900  
gagcagagcc atctgcaacta ttgcataatc tgagccagag tttgggacca 1950  
ggacctcctg cttttccata cttactgtg gcctcagcat gggtagggc 2000  
tgggtgactg ggtctagccc ctgatcccaa atctgtttac acatcaatct 2050  
gcctcactgc tgttctgggc catccocata gccatgttta catgatttga 2100  
tgtgcaatag ggtggggtag gggcagggaa aggactgggc cagggcaggc 2150  
tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
tgtgctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
gaggaggagg cttcagccat cagcaataaa gttgatccca gggaaaaaaa 2300

<210> 138

<211> 489

<212> PRT

<213> Homo sapiens

<400> 138

Met	Glu	Ala	Pro	Asp	Tyr	Glu	Val	Leu	Ser	Val	Arg	Glu	Gln	Leu
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Phe	His	Glu	Arg	Ile	Arg	Glu	Cys	Ile	Ile	Ser	Thr	Leu	Leu	Phe
				20					25					30
Ala	Thr	Leu	Tyr	Ile	Leu	Cys	His	Ile	Phe	Leu	Thr	Arg	Phe	Lys
				35					40					45
Lys	Pro	Ala	Glu	Phe	Thr	Thr	Val	Asp	Asp	Glu	Asp	Ala	Thr	Val
				50					55					60
Asn	Lys	Ile	Ala	Leu	Glu	Leu	Cys	Thr	Phe	Thr	Leu	Ala	Ile	Ala
				65					70					75
Leu	Gly	Ala	Val	Leu	Leu	Leu	Pro	Phe	Ser	Ile	Ile	Ser	Asn	Glu
				80					85					90
Val	Leu	Leu	Ser	Leu	Pro	Arg	Asn	Tyr	Tyr	Ile	Gln	Trp	Leu	Asn
				95					100					105
Gly	Ser	Leu	Ile	His	Gly	Leu	Trp	Asn	Leu	Val	Phe	Leu	Phe	Pro
				110					115					120
Asn	Leu	Ser	Leu	Ile	Phe	Leu	Met	Pro	Phe	Ala	Tyr	Phe	Phe	Thr

	125		130		135
Glu Ser Glu Gly	Phe Ala Gly Ser Arg	Lys Gly Val Leu Gly	Arg		
	140	145	150		
Val Tyr Glu Thr	Val Val Met Leu Met	Leu Leu Thr Leu Leu	Val		
	155	160	165		
Leu Gly Met Val	Trp Val Ala Ser Ala	Ile Val Asp Lys Asn	Lys		
	170	175	180		
Ala Asn Arg Glu	Ser Leu Tyr Asp Phe	Trp Glu Tyr Tyr Leu	Pro		
	185	190	195		
Tyr Leu Tyr Ser	Cys Ile Ser Phe Leu	Gly Val Leu Leu Leu	Leu		
	200	205	210		
Val Cys Thr Pro	Leu Gly Leu Ala Arg	Met Phe Ser Val Thr	Gly		
	215	220	225		
Lys Leu Leu Val	Lys Pro Arg Leu Leu	Glu Asp Leu Glu Glu	Gln		
	230	235	240		
Leu Tyr Cys Ser	Ala Phe Glu Glu Ala	Ala Leu Thr Arg Arg	Ile		
	245	250	255		
Cys Asn Pro Thr	Ser Cys Trp Leu Pro	Leu Asp Met Glu Leu	Leu		
	260	265	270		
His Arg Gln Val	Leu Ala Leu Gln Thr	Gln Arg Val Leu Leu	Glu		
	275	280	285		
Lys Arg Arg Lys	Ala Ser Ala Trp Gln	Arg Asn Leu Gly Tyr	Pro		
	290	295	300		
Leu Ala Met Leu	Cys Leu Leu Val Leu	Thr Gly Leu Ser Val	Leu		
	305	310	315		
Ile Val Ala Ile	His Ile Leu Glu Leu	Leu Ile Asp Glu Ala	Ala		
	320	325	330		
Met Pro Arg Gly	Met Gln Gly Thr Ser	Leu Gly Gln Val Ser	Phe		
	335	340	345		
Ser Lys Leu Gly	Ser Phe Gly Ala Val	Ile Gln Val Val Leu	Ile		
	350	355	360		
Phe Tyr Leu Met	Val Ser Ser Val Val	Gly Phe Tyr Ser Ser	Pro		
	365	370	375		
Leu Phe Arg Ser	Leu Arg Pro Arg Trp	His Asp Thr Ala Met	Thr		
	380	385	390		
Gln Ile Ile Gly	Asn Cys Val Cys Leu	Leu Val Leu Ser Ser	Ala		
	395	400	405		
Leu Pro Val Phe	Ser Arg Thr Leu Gly	Leu Thr Arg Phe Asp	Leu		
	410	415	420		
Leu Gly Asp Phe	Gly Arg Phe Asn Trp	Leu Gly Asn Phe Tyr	Ile		
	425	430	435		
Val Phe Leu Tyr	Asn Ala Ala Phe Ala	Gly Leu Thr Thr Leu	Cys		

GenBank

440	445	450
Leu Val Lys Thr Phe Thr Ala Ala Val Arg Ala Glu Leu Ile Arg		
455	460	465
Ala Phe Gly Leu Asp Arg Leu Pro Leu Pro Val Ser Gly Phe Pro		
470	475	480
Gln Ala Ser Arg Lys Thr Gln His Gln		
485		

<210> 139  
<211> 294  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 53, 57  
<223> unknown base

<400> 139  
ggctgccgag ggaaggcccc ttgggttggt ottggttgct tggcggcggc 50  
ggnttcntcc ccgctcgtcc tccccgggcc cagaggcacc tcggcttcag 100  
tcattgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
gagaacagct attccacgag aggatccgag agtgtattat atcaaacatt 200  
ctgtttgcaa cactgtacat cctctgccac atcttcctga cccgcttcaa 250  
gaagcctgct gaggttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
<211> 526  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 197, 349  
<223> unknown base

<400> 140  
gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaaacg 50  
aggcgggtgt gcctgccctt taaggggcgg gcgtccggac gactgtatct 100  
gagccccaga ctgccccgag tttctgtcgc aggtgctgag gaaaggcccc 150  
taggctgggt ctggtgcttg gcggcggcgg cttoctcccc gttgtcntcc 200  
ccggggcccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
cacctgacta cgaagtgcta tccgtgcgag aacagctatt ccacgagagg 300  
atccgcgagt gtattatatc aacactttctg tttgcaacac tgtacatcnt 350  
ctgccacatc ttctgaccc gcttcaagaa gcctgctgag ttcaccacag 400  
tggatgatga agatgccacc gtcaacaaga ttgcgctcga gctgtgcacc 450



tttacccctgg caattgccct ggggtgctgtc ctgctcctgc ctttctccat 500

catcagcaat gaggtgctgc actccc 526

<210> 141

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 141

gactgtatct gagccccaga ctgc 24

<210> 142

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 142

tcagcaatga ggtgctgctc 20

<210> 143

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 143

tgaggaagat gagggacagg ttgg 24

<210> 144

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 144

tatggaagca cctgactacg aagtgctatc cgtgcgagaa cagctattcc 50

<210> 145

<211> 685

<212> DNA

<213> Homo sapiens

<400> 145

gatgtgctcc ttggagctgg tgtgcagtgt cctgactgta agatcaagtc 50

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tggtccaggt cttcatgctg ctgtgggtga tattactggt cctggctcct 150

gtcagtggac agtttgcaag gacaccagg cccattattt tcctccagcc 200

tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250

gatttcgctt ctactcacca cagaaaacaa aatggtacca tcggtacctt 300  
 gggaaagaaa tactaagaga aaccccagac aatataccttg aggttcagga 350  
 atctggagag tacagatgcc aggccaggg cccccctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttctcatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctacactagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
 aaggagactc tgtggttctg aggtgccggg caaaggcgga agtaacactg 600  
 aataatacta ttacaagaa tgataatgtc ctggcattcc ttaataaaag 650  
 aactgacttc caaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
 1 5 10 15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
 20 25 30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
 35 40 45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
 50 55 60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
 65 70 75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
 80 85 90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
 95 100 105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
 110 115 120  
 Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccagga gacccccgcg 50  
 cccccccggt gtgaggcggc ctcacagggc cgggtgggct ggcgagccga 100  
 cgcgggcgcg gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150

gaggaaccat	ggctccgcag	aacctgagca	ccttttgccct	gttgctgcta	200
tacctcatcg	gggcggtgat	tgccggacga	gattttctata	agatcttggg	250
ggtgcctcga	agtgcctcta	taaaggatat	taaaaaggcc	tataggaaac	300
tagccctgca	gcttcatccc	gaccggaacc	ctgatgatcc	acaagcccag	350
gagaaattcc	aggatctggg	tgctgcttat	gaggttctgt	cagatagtga	400
gaaacggaaa	cagtacgata	cttatggtga	agaaggatta	aaagatggtc	450
atcagagctc	ccatggagac	attttttcac	acttctttgg	ggattttggt	500
ttcatgtttg	gaggaacccc	tcgtcagcaa	gacagaaata	ttccaagagg	550
aagtgatatt	attgtagatc	tagaagtcac	tttggaagaa	gtatatgcag	600
gaaattttgt	ggaagtagtt	agaaacaaac	ctgtggcaag	gcaggctcct	650
ggcaaacgga	agtgcaattg	tcggcaagag	atgccgacca	cccagctggg	700
ccctgggcgc	ttccaaatga	cccaggaggt	ggtctgcgac	gaatgcccta	750
atgtcaaact	agtgaatgaa	gaacgaacgc	tggaagtaga	aatagagcct	800
ggggtgagag	acggcatgga	gtaccctttt	attggagaag	gtgagcctca	850
cgtggatggg	gagcctggag	atttacggtt	ccgaatcaaa	gttgtcaagc	900
acccaatatt	tgaaaggaga	ggagatgatt	tgtacacaaa	tgtgacaatc	950
tcattagttg	agtcactggg	tggcttttgag	atggatatta	ctcacttgga	1000
tggtcacaag	gtacatattt	cccgggataa	gatcaccagg	ccaggagcga	1050
agctatggaa	gaaaggggaa	gggctcccca	actttgacaa	caacaatatc	1100
aagggctctt	tgataatcac	ttttgatgtg	gattttccaa	aagaacagtt	1150
aacagaggaa	gcgagagaag	gtatcaaaca	gctactgaaa	caagggtcag	1200
tgcagaaggt	atacaatgga	ctgcaaggat	attgagagtg	aataaaattg	1250
gactttgttt	aaaataagtg	aataagcgat	atttattatc	tgcaaggttt	1300
ttttgtgtgt	gtttttgttt	ttattttcaa	tatgcaagtt	aggcttaatt	1350
tttttatcta	atgatcatca	tgaaatgaat	aagaggggctt	aagaatttgt	1400
ccatttgcac	tcggaaaaga	atgaccagca	aaaggtttac	taataacctct	1450
ccctttgggg	atttaatgtc	tggtgctgcc	gcctgagttt	caagaattaa	1500
agctgcaaga	ggactccagg	agcaaaagaa	acacaatata	gagggttgga	1550
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<210>	148
<211>	358
<212>	PRT

<211> 358

<212> PRT

<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr
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Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu
				20					25					30
Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr
				35					40					45
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp
				50					55					60
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu
				65					70					75
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly
				80					85					90
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile
				95					100					105
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr
				110					115					120
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile
				125					130					135
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe
				140					145					150
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly
				155					160					165
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu
				170					175					180
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu
				185					190					195
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val
				200					205					210
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile
				215					220					225
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg
				230					235					240
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly
				245					250					255
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu
				260					265					270
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val
				275					280					285
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp
				290					295					300

Lys	Lys	Gly	Glu	Gly	Leu	Pro	Asn	Phe	Asp	Asn	Asn	Asn	Ile	Lys
				305					310					315
Gly	Ser	Leu	Ile	Ile	Thr	Phe	Asp	Val	Asp	Phe	Pro	Lys	Glu	Gln
				320					325					330
Leu	Thr	Glu	Glu	Ala	Arg	Glu	Gly	Ile	Lys	Gln	Leu	Leu	Lys	Gln
				335					340					345
Gly	Ser	Val	Gln	Lys	Val	Tyr	Asn	Gly	Leu	Gln	Gly	Tyr		
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 <213> Homo sapiens  
  
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 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445, 482  
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 <212> DNA  
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 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
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cattgaggcc attctggaga atgaagactg gatcgaagat gcctcgggtc 450  
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aagcttggtg ccatgacaat gggctctggg gccaaagatga agacttcagc 550  
cagtgtcagc gacatcattg tgggtggccaa gcggatcagc cccagggtgg 600  
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tgtcggctgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
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<210> 151

<211> 226

<212> PRT

<213> Homo sapiens

<400> 151

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20 25 30

Tyr Cys Arg Pro Arg Asp Leu Leu Gln Arg Tyr Asp Ser Lys Pro



09916234.1.501

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<210> 153  
<211> 138  
<212> PRT  
<213> Homo sapiens

<220>  
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<222> 11-16, 51-56 and 116-121  
<223> N-myristoylation Sites.

<220>  
<221> Transmembrane domains  
<222> 12-30, 33-52, 69-89 and 93-109  
<223> Transmembrane domains

<220>  
<221> Aminoacyl-transfer RNA Synthetases.  
<222> 49-59  
<223> Aminoacyl-transfer RNA synthetases class-II protein.

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Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly  
35 40 45  
Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe  
50 55 60



Gln Lys His Lys Met Lys Ala Thr Gly Phe Phe Leu Gly Gly Val  
65 70 75

Phe Val Val Leu Ile Gly Trp Pro Leu Ile Gly Met Ile Phe Glu  
80 85 90

Ile Tyr Gly Phe Phe Leu Leu Phe Arg Gly Phe Phe Pro Val Val  
95 100 105

Val Gly Phe Ile Arg Arg Val Pro Val Leu Gly Ser Leu Leu Asn  
110 115 120

Leu Pro Gly Ile Arg Ser Phe Val Asp Lys Val Gly Glu Ser Asn  
125 130 135

Asn Met Val

<210> 154  
<211> 405  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 66  
<223> unknown base

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<210> 155  
<211> 1781  
<212> DNA  
<213> Homo sapiens

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aagagcgtcc acgcatcatg gacctcgcg gactgctgaa gtctcagttc 200  
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<210> 156

<211> 378  
 <212> PRT  
 <213> Homo sapiens

<400> 156

Met	Asp	Leu	Ala	Gly	Leu	Leu	Lys	Ser	Gln	Phe	Leu	Cys	His	Leu	1	5	10	15
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Ile	Gln	Leu	Phe	Thr	Leu	Leu	Leu	Trp	Pro	Ile	Asn	Lys	Gln	Leu	35	40	45	
Phe	Arg	Lys	Ile	Asn	Cys	Arg	Leu	Ser	Tyr	Cys	Ile	Ser	Ser	Gln	50	55	60	
Leu	Val	Met	Leu	Leu	Glu	Trp	Trp	Ser	Gly	Thr	Glu	Cys	Thr	Ile	65	70	75	
Phe	Thr	Asp	Pro	Arg	Ala	Tyr	Leu	Lys	Tyr	Gly	Lys	Glu	Asn	Ala	80	85	90	
Ile	Val	Val	Leu	Asn	His	Lys	Phe	Glu	Ile	Asp	Phe	Leu	Cys	Gly	95	100	105	
Trp	Ser	Leu	Ser	Glu	Arg	Phe	Gly	Leu	Leu	Gly	Gly	Ser	Lys	Val	110	115	120	
Leu	Ala	Lys	Lys	Glu	Leu	Ala	Tyr	Val	Pro	Ile	Ile	Gly	Trp	Met	125	130	135	
Trp	Tyr	Phe	Thr	Glu	Met	Val	Phe	Cys	Ser	Arg	Lys	Trp	Glu	Gln	140	145	150	
Asp	Arg	Lys	Thr	Val	Ala	Thr	Ser	Leu	Gln	His	Leu	Arg	Asp	Tyr	155	160	165	
Pro	Glu	Lys	Tyr	Phe	Phe	Leu	Ile	His	Cys	Glu	Gly	Thr	Arg	Phe	170	175	180	
Thr	Glu	Lys	Lys	His	Glu	Ile	Ser	Met	Gln	Val	Ala	Arg	Ala	Lys	185	190	195	
Gly	Leu	Pro	Arg	Leu	Lys	His	His	Leu	Leu	Pro	Arg	Thr	Lys	Gly	200	205	210	
Phe	Ala	Ile	Thr	Val	Arg	Ser	Leu	Arg	Asn	Val	Val	Ser	Ala	Val	215	220	225	
Tyr	Asp	Cys	Thr	Leu	Asn	Phe	Arg	Asn	Asn	Glu	Asn	Pro	Thr	Leu	230	235	240	
Leu	Gly	Val	Leu	Asn	Gly	Lys	Lys	Tyr	His	Ala	Asp	Leu	Tyr	Val	245	250	255	
Arg	Arg	Ile	Pro	Leu	Glu	Asp	Ile	Pro	Glu	Asp	Asp	Asp	Glu	Cys	260	265	270	
Ser	Ala	Trp	Leu	His	Lys	Leu	Tyr	Gln	Glu	Lys	Asp	Ala	Phe	Gln	275	280	285	
Glu	Glu	Tyr	Tyr	Arg	Thr	Gly	Thr	Phe	Pro	Glu	Thr	Pro	Met	Val				

290	295	300
Pro Pro Arg Arg Pro Trp Thr Leu Val Asn Trp Leu Phe Trp Ala		
305	310	315
Ser Leu Val Leu Tyr Pro Phe Phe Gln Phe Leu Val Ser Met Ile		
320	325	330
Arg Ser Gly Ser Ser Leu Thr Leu Ala Ser Phe Ile Leu Val Phe		
335	340	345
Phe Val Ala Ser Val Gly Val Arg Trp Met Ile Gly Val Thr Glu		
350	355	360
Ile Asp Lys Gly Ser Ala Tyr Gly Asn Ser Asp Ser Lys Gln Lys		
365	370	375

Leu Asn Asp

<210> 157  
 <211> 1849  
 <212> DNA  
 <213> Homo sapiens

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gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcggc 1100  
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tgaaaattta tctgagtcac taaaattctc cttaagtgat acttttttag 1750  
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aaatttgcaa aacatcatct aaaatttaaa aaaaaaaaaa aaaaaaaaaa 1849

<210> 158  
<211> 409  
<212> PRT  
<213> Homo sapiens

<400> 158  
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20 25 30  
Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
35 40 45  
Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
50 55 60  
Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
65 70 75  
Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
80 85 90  
Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
95 100 105

Ser	Asp	Gln	Ile	Met	Thr	Phe	Arg	Glu	Arg	Leu	Leu	His	Lys	Asn	
				110					115					120	
Leu	Gln	Glu	His	Phe	Ser	Asn	Gln	Asp	Leu	Val	Phe	Leu	Leu	Leu	
				125					130					135	
Thr	Pro	Ser	Ile	Ile	Thr	Glu	Ser	Cys	Ser	Thr	His	Arg	Leu	Glu	
				140					145					150	
His	Ser	Leu	Tyr	Lys	Pro	Gln	Lys	Gly	Leu	Phe	His	Arg	Val	Pro	
				155					160					165	
Leu	Val	Val	Ala	Asn	Leu	Gly	Met	Ser	Glu	Gln	Leu	Gly	Tyr	Lys	
				170					175					180	
Thr	Val	Ser	Gly	Ser	Cys	Met	Ser	Thr	Gly	Phe	Ser	Arg	Ala	Val	
				185					190					195	
Gln	Thr	His	Ser	Ser	Lys	Phe	Phe	Glu	Glu	Asp	Gly	Ser	Leu	Lys	
				200					205					210	
Glu	Val	His	Lys	Ile	Asn	Glu	Met	Tyr	Ala	Ser	Leu	Gln	Glu	Glu	
				215					220					225	
Leu	Lys	Ser	Ile	Cys	Lys	Lys	Val	Glu	Asp	Ser	Glu	Gln	Ala	Val	
				230					235					240	
Asp	Lys	Leu	Val	Lys	Asp	Val	Asn	Arg	Leu	Lys	Arg	Glu	Ile	Glu	
				245					250					255	
Lys	Arg	Arg	Gly	Ala	Gln	Ile	Gln	Ala	Ala	Arg	Glu	Lys	Asn	Ile	
				260					265					270	
Gln	Lys	Asp	Pro	Gln	Glu	Asn	Ile	Phe	Leu	Cys	Gln	Ala	Leu	Arg	
				275					280					285	
Thr	Phe	Phe	Pro	Asn	Ser	Glu	Phe	Leu	His	Ser	Cys	Val	Met	Ser	
				290					295					300	
Leu	Lys	Asn	Arg	His	Val	Ser	Lys	Ser	Ser	Cys	Asn	Tyr	Asn	His	
				305					310					315	
His	Leu	Asp	Val	Val	Asp	Asn	Leu	Thr	Leu	Met	Val	Glu	His	Thr	
				320					325					330	
Asp	Ile	Pro	Glu	Ala	Ser	Pro	Ala	Ser	Thr	Pro	Gln	Ile	Ile	Lys	
				335					340					345	
His	Lys	Ala	Leu	Asp	Leu	Asp	Asp	Arg	Trp	Gln	Phe	Lys	Arg	Ser	
				350					355					360	
Arg	Leu	Leu	Asp	Thr	Gln	Asp	Lys	Arg	Ser	Lys	Ala	Asn	Thr	Gly	
				365					370					375	
Ser	Ser	Asn	Gln	Asp	Lys	Ala	Ser	Lys	Met	Ser	Ser	Pro	Glu	Thr	
				380					385					390	
Asp	Glu	Glu	Ile	Glu	Lys	Met	Lys	Gly	Phe	Gly	Glu	Tyr	Ser	Arg	
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Ser	Pro	Thr	Phe												

<210> 159  
<211> 2651  
<212> DNA  
<213> Homo sapiens

<400> 159  
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cgccgcccac accctctgcg gtccccgcgg cgcttgccac ccttccctcc 150  
ttcccccggt ccccgccctcg ccggccagtc agcttgccgg gttcgctgcc 200  
ccgcgaaacc ccgaggtcac cagcccgcgc ctctgcttcc ctgggccgcg 250  
cgccgcctcc acgccctcct tctcccctgg ccgggcgcct ggcaccgggg 300  
accgttgctt gacgcgaggc ccagctctac ttttcgcccc gcgctctctc 350  
cgcttgctcg cctcttccac caactccaac tccttctccc tccagctcca 400  
ctcgctagtc cccgactccg ccagccctcg gcccgctgcc gtagcgccgc 450  
ttcccgctcg gtcccaaagg tgggaacgcg tccgccccgg ccgcacccat 500  
ggcacggttc ggcttgcccg cgcttctctg caccctggca gtgctcagcg 550  
ccgcgctgct ggctgccgag ctcaagtcga aaagtgtgtc ggaagtgcga 600  
cgtcttttac tgtccaaagg cttcaacaag aacgatgccc ccctccacga 650  
gatcaacggt gatcatttga agatctgtcc ccagggttct acctgctgct 700  
ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750  
agtgtggtca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800  
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aatccctgaa tgatatgttt gtgaagacat atggccattt atacatgcaa 900  
aattctgagc tatttaaaga tctcttcgta gagttgaaac gttactacgt 950  
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tcttgagcgg gatgttccgc ctggtgaact ccagtagcca ctttacagat 1050  
gagtatctgg aatgtgtgag caagtatacg gacgagctga agcccttcgg 1100  
agatgtccct cgcaaattga agctccaggt tactcgtgct tttgtagcag 1150  
cccgtacttt cgctcaaggc ttagcggttg cgggagatgt cgtgagcaag 1200  
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actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350  
gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400  
gctagagggt cctttcaaca ttgaatcggg catggatccc atcgatgtga 1450

4054560

agatttctga tgctattatg aacatgcagg ataatagtgt tcaagtgtct 1500  
 cagaaggttt tccagggatg tggaccccc aagcccctcc cagctggacg 1550  
 aatttctcgt tccatctctg aaagtgcctt cagtgcctgc ttcagaccac 1600  
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 gcagtgcacg gaaatggatt agccaaccag ggcaacaacc cagaggtcca 1850  
 ggttgacacc agcaaaccag acatactgat ccttcgtcaa atcatggctc 1900  
 ttcgagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
 gacttctttg atatcagtga tgaaagtagt ggagaaggaa gtggaagtgg 2000  
 ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050  
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 ggggcacagg cctacctcct cactgtcttc tgcactctgt tcttggttat 2150  
 gcagagagag tggagataat tctcaactc tgagaaaaag tgttcatcaa 2200  
 aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250  
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 tttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaaggg 2350  
 actgtgcatt gagttggttc ctgctcccc aaaccatgtt aaacgtggct 2400  
 aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450  
 ctctattatt tgtttgtatg tttttttctc atttcgtttg tgggtttttt 2500  
 tttccaaactg tgatctcgcc ttgtttctta caagcaaacc aggtccctt 2550  
 cttggcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600  
 agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650  
 c 2651

<210> 160  
 <211> 556  
 <212> PRT  
 <213> Homo sapiens

<400> 160  
 Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
     1                    5                    10                    15  
 Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
                     20                    25                    30  
 Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn



35										40					45				
Asp	Ala	Pro	Leu	His	Glu	Ile	Asn	Gly	Asp	His	Leu	Lys	Ile	Cys					
				50					55					60					
Pro	Gln	Gly	Ser	Thr	Cys	Cys	Ser	Gln	Glu	Met	Glu	Glu	Lys	Tyr					
				65					70					75					
Ser	Leu	Gln	Ser	Lys	Asp	Asp	Phe	Lys	Ser	Val	Val	Ser	Glu	Gln					
				80					85					90					
Cys	Asn	His	Leu	Gln	Ala	Val	Phe	Ala	Ser	Arg	Tyr	Lys	Lys	Phe					
				95					100					105					
Asp	Glu	Phe	Phe	Lys	Glu	Leu	Leu	Glu	Asn	Ala	Glu	Lys	Ser	Leu					
				110					115					120					
Asn	Asp	Met	Phe	Val	Lys	Thr	Tyr	Gly	His	Leu	Tyr	Met	Gln	Asn					
				125					130					135					
Ser	Glu	Leu	Phe	Lys	Asp	Leu	Phe	Val	Glu	Leu	Lys	Arg	Tyr	Tyr					
				140					145					150					
Val	Val	Gly	Asn	Val	Asn	Leu	Glu	Glu	Met	Leu	Asn	Asp	Phe	Trp					
				155					160					165					
Ala	Arg	Leu	Leu	Glu	Arg	Met	Phe	Arg	Leu	Val	Asn	Ser	Gln	Tyr					
				170					175					180					
His	Phe	Thr	Asp	Glu	Tyr	Leu	Glu	Cys	Val	Ser	Lys	Tyr	Thr	Glu					
				185					190					195					
Gln	Leu	Lys	Pro	Phe	Gly	Asp	Val	Pro	Arg	Lys	Leu	Lys	Leu	Gln					
				200					205					210					
Val	Thr	Arg	Ala	Phe	Val	Ala	Ala	Arg	Thr	Phe	Ala	Gln	Gly	Leu					
				215					220					225					
Ala	Val	Ala	Gly	Asp	Val	Val	Ser	Lys	Val	Ser	Val	Val	Asn	Pro					
				230					235					240					
Thr	Ala	Gln	Cys	Thr	His	Ala	Leu	Leu	Lys	Met	Ile	Tyr	Cys	Ser					
				245					250					255					
His	Cys	Arg	Gly	Leu	Val	Thr	Val	Lys	Pro	Cys	Tyr	Asn	Tyr	Cys					
				260					265					270					
Ser	Asn	Ile	Met	Arg	Gly	Cys	Leu	Ala	Asn	Gln	Gly	Asp	Leu	Asp					
				275					280					285					
Phe	Glu	Trp	Asn	Asn	Phe	Ile	Asp	Ala	Met	Leu	Met	Val	Ala	Glu					
				290					295					300					
Arg	Leu	Glu	Gly	Pro	Phe	Asn	Ile	Glu	Ser	Val	Met	Asp	Pro	Ile					
				305					310					315					
Asp	Val	Lys	Ile	Ser	Asp	Ala	Ile	Met	Asn	Met	Gln	Asp	Asn	Ser					
				320					325					330					
Val	Gln	Val	Ser	Gln	Lys	Val	Phe	Gln	Gly	Cys	Gly	Pro	Pro	Lys					
				335					340					345					
Pro	Leu	Pro	Ala	Gly	Arg	Ile	Ser	Arg	Ser	Ile	Ser	Glu	Ser	Ala					

	350		355		360
Phe Ser Ala Arg	Phe Arg Pro His His	Pro Glu Glu Arg Pro	Thr		
	365		370		375
Thr Ala Ala Gly	Thr Ser Leu Asp Arg	Leu Val Thr Asp Val	Lys		
	380		385		390
Glu Lys Leu Lys	Gln Ala Lys Lys Phe	Trp Ser Ser Leu Pro	Ser		
	395		400		405
Asn Val Cys Asn	Asp Glu Arg Met Ala	Ala Gly Asn Gly Asn	Glu		
	410		415		420
Asp Asp Cys Trp	Asn Gly Lys Gly Lys	Ser Arg Tyr Leu Phe	Ala		
	425		430		435
Val Thr Gly Asn	Gly Leu Ala Asn Gln	Gly Asn Asn Pro Glu	Val		
	440		445		450
Gln Val Asp Thr	Ser Lys Pro Asp Ile	Leu Ile Leu Arg Gln	Ile		
	455		460		465
Met Ala Leu Arg	Val Met Thr Ser Lys	Met Lys Asn Ala Tyr	Asn		
	470		475		480
Gly Asn Asp Val	Asp Phe Phe Asp Ile	Ser Asp Glu Ser Ser	Gly		
	485		490		495
Glu Gly Ser Gly	Ser Gly Cys Glu Tyr	Gln Gln Cys Pro Ser	Glu		
	500		505		510
Phe Asp Tyr Asn	Ala Thr Asp His Ala	Gly Lys Ser Ala Asn	Glu		
	515		520		525
Lys Ala Asp Ser	Ala Gly Val Arg Pro	Gly Ala Gln Ala Tyr	Leu		
	530		535		540
Leu Thr Val Phe	Cys Ile Leu Phe Leu	Val Met Gln Arg Glu	Trp		
	545		550		555

Arg

<210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 161  
 ctccgtggta aacccacag ccc 23

<210> 162  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 162  
tcacatogat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
gggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
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gctgagtatc ctgacctgag tcatccccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca cgcacagttg 150  
cgatgaaagt tctaattctt tccctcctcc tgttgctgcc actaatgctg 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250  
ggaccgaggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattggttc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgtccc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacacc aaaggcacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccact cttccaatta aacattctca 550  
gccaagaaga cagtgagcac acctaccaga cactotttct ctcccacctc 600  
actctcccac tgtaccacc cctaaatcat tccagtgtc tcaaaaagca 650  
tgtttttcaa gatcattttg tttgttgctc tctctagtgt cttctttctot 700  
cgtcagtctt agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaaagatt ccaggaaact gtagcttcct agctagtgtc atttaacctt 800  
aaatgcaatc aggaaagtag caaacagaag tcaataaata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg	20	25	30
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu	35	40	45
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro	50	55	60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys	65	70	75
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln	80	85	90
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln	95	100	105
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu	110	115	

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
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 tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
 ccagacgact cgggcaaaga cccaaagcca gacttcccca aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca cccatgtggc tcctggacaa 300  
 tccaagagca gccaaatcct gcttttccag tttggctcca caagtcctcc 350  
 aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
 tggcttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe					
	35		40		45
Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala					
	50		55		60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65		70		75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80		85		

<210> 168  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
 ggacgccagc gcctgcagag gctgagcagg gaaaaagcca gtgccccagc 50  
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 gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150  
 tgggctgctg gcagccccctg tgcaaaagct acttccccta cctgatggcc 200  
 gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250  
 cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300  
 tggagctggg ctgcggaacc ggagccaact ttcagttcta cccaccgggc 350  
 tgcaggggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400  
 aaagagcatg gctgagaaca ggcacctcca atatgagcgg tttgtggtgg 450  
 ctctgggaga ggacatgaga cagctggctg atggctccat ggatgtggtg 500  
 gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550  
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 gagccacact ggaaacacat tggggatggc tgctgcctca ccagagagac 700  
 ctggaaggat cttgagaacg ccaggttctc cgaaatccaa atggaacgac 750  
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 gagggaccta gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
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 gacagtgaag aagctctact tctacgctga ccagggagg aaacactagg 1050  
 accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tccttogttc ccatggtaaa gctcctctcg 1150  
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ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
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taataaatag acgaaaccac g 1371

<210> 169  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 169  
Met Asp Ile Leu Val Pro Leu Leu Gln Leu Leu Val Leu Leu Leu  
1 5 10 15  
Thr Leu Pro Leu His Leu Met Ala Leu Leu Gly Cys Trp Gln Pro  
20 25 30  
Leu Cys Lys Ser Tyr Phe Pro Tyr Leu Met Ala Val Leu Thr Pro  
35 40 45  
Lys Ser Asn Arg Lys Met Glu Ser Lys Lys Arg Glu Leu Phe Ser  
50 55 60  
Gln Ile Lys Gly Leu Thr Gly Ala Ser Gly Lys Val Ala Leu Leu  
65 70 75  
Glu Leu Gly Cys Gly Thr Gly Ala Asn Phe Gln Phe Tyr Pro Pro  
80 85 90  
Gly Cys Arg Val Thr Cys Leu Asp Pro Asn Pro His Phe Glu Lys  
95 100 105  
Phe Leu Thr Lys Ser Met Ala Glu Asn Arg His Leu Gln Tyr Glu  
110 115 120  
Arg Phe Val Val Ala Pro Gly Glu Asp Met Arg Gln Leu Ala Asp  
125 130 135  
Gly Ser Met Asp Val Val Val Cys Thr Leu Val Leu Cys Ser Val  
140 145 150  
Gln Ser Pro Arg Lys Val Leu Gln Glu Val Arg Arg Val Leu Arg  
155 160 165  
Pro Gly Gly Val Leu Phe Phe Trp Glu His Val Ala Glu Pro Tyr  
170 175 180  
Gly Ser Trp Ala Phe Met Trp Gln Gln Val Phe Glu Pro Thr Trp  
185 190 195  
Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr Trp Lys  
200 205 210  
Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg Gln  
215 220 225

Pro	Pro	Pro	Leu	Lys	Trp	Leu	Pro	Val	Gly	Pro	His	Ile	Met	Gly
				230					235					240
Lys	Ala	Val	Lys	Gln	Ser	Phe	Pro	Ser	Ser	Lys	Ala	Leu	Ile	Cys
				245					250					255
Ser	Phe	Pro	Ser	Leu	Gln	Leu	Glu	Gln	Ala	Thr	His	Gln	Pro	Ile
				260					265					270
Tyr	Leu	Pro	Leu	Arg	Gly	Thr								
				275										

<210> 170  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 170  
 gtgggatttta tttgagtgc agatcgtttt ctgagtgtg gtggaagttg 50  
 cctcatcgca ggcagatgtt ggggctttgt ccgaacagct cccctctgcc 100  
 agcttctgta gataaggggt aaaaactaat atttatatga cagaagaaaa 150  
 agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
 ctcttcttac tggttttgca ccataacttc ctgagcttga gcagtttggt 250  
 aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
 ttgtcccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
 cctgtggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
 tataaacagc attcagcaca acactcgctc caatgtgatt ttctacattg 450  
 ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
 tccctgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
 ggaaggaaaa gttaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
 taacctttgc aaggttctac ttgccaatc tggttcccag cgcaaagaag 650  
 gccatataca tggatgatga tgtaattgtg caaggtgata ttcttgccct 700  
 ttacaataca gcactgaagc caggacatgc agctgcattt tcagaagatt 750  
 gtgattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
 aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
 catgaaagcc agcaattgct catttaatcc tggagttttt gttgcaaacc 900  
 tgacggaatg gaaacgacag aatataacta accaactgga aaaatggatg 950  
 aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggtagcat 1000  
 cacaacacct cctctgttta tcgtatttta tcaacagcac tctaccatcg 1050  
 atcctatgtg gaatgtccgc caccttggtt ccagtgtgtg aaaacgatat 1100  
 tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatggt 1200  
atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
atctcaaaca taaagtgaag cagaatttga actgtaagca agcattttctc 1300  
aggaagtcct ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
atgacaaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
ataaatatgt ctccatctgc cttaccaagt gttttcttac tacaatgctg 1500  
aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
taaataaaac ttacattttt c 1621

<210> 171  
<211> 371  
<212> PRT  
<213> Homo sapiens

<400> 171  
Met Ser Phe Arg Lys Val Asn Ile Ile Ile Leu Val Leu Ala Val  
1 5 10 15  
Ala Leu Phe Leu Leu Val Leu His His Asn Phe Leu Ser Leu Ser  
20 25 30  
Ser Leu Leu Arg Asn Glu Val Thr Asp Ser Gly Ile Val Gly Pro  
35 40 45  
Gln Pro Ile Asp Phe Val Pro Asn Ala Leu Arg His Ala Val Asp  
50 55 60  
Gly Arg Gln Glu Glu Ile Pro Val Val Ile Ala Ala Ser Glu Asp  
65 70 75  
Arg Leu Gly Gly Ala Ile Ala Ala Ile Asn Ser Ile Gln His Asn  
80 85 90  
Thr Arg Ser Asn Val Ile Phe Tyr Ile Val Thr Leu Asn Asn Thr  
95 100 105  
Ala Asp His Leu Arg Ser Trp Leu Asn Ser Asp Ser Leu Lys Ser  
110 115 120  
Ile Arg Tyr Lys Ile Val Asn Phe Asp Pro Lys Leu Leu Glu Gly  
125 130 135  
Lys Val Lys Glu Asp Pro Asp Gln Gly Glu Ser Met Lys Pro Leu  
140 145 150  
Thr Phe Ala Arg Phe Tyr Leu Pro Ile Leu Val Pro Ser Ala Lys  
155 160 165  
Lys Ala Ile Tyr Met Asp Asp Asp Val Ile Val Gln Gly Asp Ile  
170 175 180  
Leu Ala Leu Tyr Asn Thr Ala Leu Lys Pro Gly His Ala Ala Ala



	185		190		195
Phe Ser Glu Asp Cys Asp Ser Ala Ser Thr Lys Val Val Ile Arg	200		205		210
Gly Ala Gly Asn Gln Tyr Asn Tyr Ile Gly Tyr Leu Asp Tyr Lys	215		220		225
Lys Glu Arg Ile Arg Lys Leu Ser Met Lys Ala Ser Thr Cys Ser	230		235		240
Phe Asn Pro Gly Val Phe Val Ala Asn Leu Thr Glu Trp Lys Arg	245		250		255
Gln Asn Ile Thr Asn Gln Leu Glu Lys Trp Met Lys Leu Asn Val	260		265		270
Glu Glu Gly Leu Tyr Ser Arg Thr Leu Ala Gly Ser Ile Thr Thr	275		280		285
Pro Pro Leu Leu Ile Val Phe Tyr Gln Gln His Ser Thr Ile Asp	290		295		300
Pro Met Trp Asn Val Arg His Leu Gly Ser Ser Ala Gly Lys Arg	305		310		315
Tyr Ser Pro Gln Phe Val Lys Ala Ala Lys Leu Leu His Trp Asn	320		325		330
Gly His Leu Lys Pro Trp Gly Arg Thr Ala Ser Tyr Thr Asp Val	335		340		345
Trp Glu Lys Trp Tyr Ile Pro Asp Pro Thr Gly Lys Phe Asn Leu	350		355		360
Ile Arg Arg Tyr Thr Glu Ile Ser Asn Ile Lys	365		370		

<210> 172  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> unsure  
 <222> 71, 76, 86, 91, 162, 220, 269, 281  
 <223> unknown base

<400> 172  
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 aggttacaga ttcaggaatt ntaggnctc aacctntaga ntttgtccca 100  
 aatgtttctcc gacatgcagt agatgggaga caagaggaga ttcctgtggt 150  
 catcgctgca tntgaagaca ggcttggggg ggccattgca gctataaaca 200  
 gcattcagca caacactcgn tccaatgtga ttttctacat tgttactctc 250  
 aacaatacag cagaccatnt ccggtcctgg ntcaacagtg attccctgaa 300  
 aagcatcaga tacaaaattg tcaattttga ccctaaactt ttggaaggaa 350





ccccccccct ggtcctccca gtgtttgctg gataataaat ggaactatgg 800  
 ctctaaaaaa aaaaaaaaaa aaa 823

<210> 175  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 175  
 Met Gly Ala Ala Ile Ser Gln Gly Ala Leu Ile Ala Ile Val Cys  
   1                  5                  10                  15  
 Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
                   20                  25                  30  
 Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
                   35                  40                  45  
 Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
                   50                  55                  60  
 His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
                   65                  70                  75  
 Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
                   80                  85

<210> 176  
 <211> 1660  
 <212> DNA  
 <213> Homo sapiens

<400> 176  
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 tgtccctcaa acacctgagt gctactccct atttgcattt gttttgataa 150  
 atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200  
 gatacaatcc ttggcctgtg tctcctcgca ttagccttgt ctttggccat 250  
 gatgtttacc ttcagattca tcaccaccct tctggttcac attttcattt 300  
 cattggttat tttgggattg ttgtttgtct gcggtgtttt atggtggctg 350  
 tattatgact ataccaacga ctcagcata gaattggaca cagaaaggga 400  
 aaatatgaag tgcgtgctgg ggtttgctat cgtatccaca ggcatcacgg 450  
 cagtgtgct cgtcttgatt tttgttctca gaaagagaat aaaattgaca 500  
 gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttcct 550  
 gctgttccag cactgtgga catttgccat cctcattttc ttctgggtcc 600  
 tctgggtggc tgtgctgctg agcctgggaa ctgcaggagc tgcccagggt 650  
 atggaaggcg gccaaagtga atataagccc ctttcgggca ttcggtacat 700  
 gtggtcgtac catttaattg gcctcatctg gactagtga ttcattcctt 750







atctgaagac agccatagag aaaattactc agagaggagg acttttctaata 1300  
 gtaggtcggg ccatctcctt tgtgaccaag aacttctttt ccaaagccaa 1350  
 tggaaacaga agcggggctc ccaatgtggt ggtggtgatg gtggatggct 1400  
 ggcccacgga caaagtggag gaggcttcaa gacttgcgag agagtcagga 1450  
 atcaacattt tcttcacac cattgaaggt gctgctgaaa atgagaagca 1500  
 gtatgtggtg gagcccaact ttgcaaaca ggccgtgtgc agaacaacg 1550  
 gcttctactc gctccacgtg cagagctggt ttggcctcca caagaccctg 1600  
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 gacctgctt aactcggctg acattggctt cgtcatcgac ggctccagca 1700  
 gtgtggggac gggcaacttc cgcaccgtcc tccagtttgt gaccaacctc 1750  
 accaaagagt ttgagatttc cgacacggac acgcgcatcg gggccgtgca 1800  
 gtacacctac gaacagcggc tggagtttgg gttcgacaag tacagcagca 1850  
 agcctgacat cctcaacgcc atcaagaggg tgggctactg gagtgggtggc 1900  
 accagcacgg gggctgccat caacttcgcc ctggagcagc tcttcaagaa 1950  
 gtccaagccc aacaagagga agttaatgat cctcatcacc gacgggaggt 2000  
 cctacgacga cgtccggatc ccagccatgg ctgccatct gaaggagtg 2050  
 atcacctatg cgataggcgt tgcttgggt gcccaagagg agctagaagt 2100  
 cattgccact caccgcgcca gagaccactc cttctttgtg gacgagtttg 2150  
 acaacctcca tcagtatgtc cccaggatca tccagaacat ttgtacagag 2200  
 ttcaactcac agcctcggaa ctgaattcag agcaggcaga gcaccagcaa 2250  
 gtgctgcttt actaactgac gtgttgacc accccaccgc ttaatggggc 2300  
 acgcacggtg catcaagtct tgggcagggc atggagaaac aaatgtcttg 2350  
 ttattattct ttgccatcat gctttttcat attccaaaac ttggagttac 2400  
 aaagatgatc acaaacgtat agaatgagcc aaaaggctac atcatgttga 2450  
 ggggtgctga gatatttacat ttgacaatt gttttcaaaa taaatgttcg 2500  
 gaatacagtg cagcccttac gacaggctta cgtagagctt ttgtgagatt 2550  
 ttttaagttg tatttctgat ttgaactctg taaccctcag caagtttcat 2600  
 tttgtcatg acaatgtagg aattgctgaa ttaaagtgtt agaaggatga 2650  
 aaaataaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2700  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
 aaaaaaaaaa aaaaaaaaaa aag 2773







605	610	615
Ala His Leu Lys Gly Val Ile Thr Tyr	Ala Ile Gly Val Ala Trp	
620	625	630
Ala Ala Gln Glu Glu Leu Glu Val Ile	Ala Thr His Pro Ala Arg	
635	640	645
Asp His Ser Phe Phe Val Asp Glu Phe	Asp Asn Leu His Gln Tyr	
650	655	660
Val Pro Arg Ile Ile Gln Asn Ile Cys	Thr Glu Phe Asn Ser Gln	
665	670	675

Pro Arg Asn

<210> 180  
 <211> 1759  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
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 acacgagctc tatgcctttc cggctgctca tcccgcctcg cctcctgtgc 100  
 gcgctgctgc ctcagcacca tgggtgcgcca ggtcccgcac gctccgcgcc 150  
 agatcccgcc cactacagtt tttctctgac tctaattgat gcaactggaca 200  
 ccttgctgat tttggggaat gtctcagaat tccaaagagt ggttgaagtg 250  
 ctccaggaca gcgtggactt tgatattgat gtgaacgcct ctgtgtttga 300  
 aacaaacatt cgagtggtag gaggactcct gtctgctcat ctgctctcca 350  
 agaaggctgg ggtggaagta gaggctggat ggccctgttc cgggcctctc 400  
 ctgagaatgg ctgaggaggc ggcccgaata ctcctcccag ctttccagac 450  
 cccactggc atgccatatg gaacagtga cttacttcat ggctgaacc 500  
 caggagagac ccctgtcacc tgtacggcag ggattgggac cttcattgtt 550  
 gaatttgcca ccctgagcag cctcactggt gaccgggtgt tcgaagatgt 600  
 ggccagagtg gctttgatgc gcctctggga gagccgtca gatatcgggc 650  
 tggtcggcaa ccacattgat gtgctcactg gcaagtgggt ggcccaggac 700  
 gcaggcatcg gggctggcgt ggactcctac tttgagtact tggtgaaagg 750  
 agccatcctg cttcaggata agaagctcat ggccatgttc ctagagtata 800  
 acaaagccat ccggaactac acccgcttcg atgactggta cctgtggggt 850  
 cagatgtaca aggggactgt gtccatgcca gtcttcagc ccttgagggc 900  
 ctactggcct ggtcttcaga gcctcattgg agacattgac aatgccatga 950  
 ggaccttcct caactactac actgtatgga agcagtttgg ggggctcccg 1000

gaattctaca acattcctca gggatacaca gtggagaagc gagagggcta 1050  
 cccacttcgg ccagaactta ttgaaagcgc aatgtacctc taccgtgcc 1100  
 cggggggatcc caccctccta gaactcggaa gagatgctgt ggaatccatt 1150  
 gaaaaaatca gcaaggtgga gtgcggatgtt gcaacaatca aagatctgcg 1200  
 agaccacaag ctggacaacc gcatggagtc gttcttctctg gccgagactg 1250  
 tgaaatacct ctacctcctg tttgacccaa ccaacttcat ccacaacaat 1300  
 ggggtccacct tcgacgcggt gatcaccccc tatggggagt gcatcctggg 1350  
 ggctggggggg tacatcttca acacagaagc tcaccccatc gaccttgccg 1400  
 ccctgcactg ctgccagagg ctgaaggaag agcagtggga ggtggaggac 1450  
 ttgatgaggg aattctactc tctcaaacgg agcaggtcga aatttcagaa 1500  
 aaacactgtt agttcggggc catgggaacc tccagcaagg ccaggaacac 1550  
 tcttctcacc agaaaaccat gaccaggcaa gggagaggaa gcctgccaaa 1600  
 cagaaggtcc cacttctcag ctgccccagt cagcccttca cctccaagtt 1650  
 ggcatctactg ggacagggtt tcttagactc ctcataacca ctggataatt 1700  
 tttttatattt tatttttttg aggctaaact ataataaatt gcttttggct 1750  
 atcataaaa 1759

<210> 181  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
 Met Pro Phe Arg Leu Leu Ile Pro Leu Gly Leu Leu Cys Ala Leu  
 1 5 10 15  
 Leu Pro Gln His His Gly Ala Pro Gly Pro Asp Gly Ser Ala Pro  
 20 25 30  
 Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu  
 35 40 45  
 Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val  
 50 55 60  
 Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn  
 65 70 75  
 Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu  
 80 85 90  
 Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala  
 95 100 105  
 Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala  
 110 115 120  
 Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro



	440		445		450
Cys Gln Arg Leu	Lys Glu Glu Gln Trp	Glu Val Glu Asp Leu	Met		
	455	460	465		
Arg Glu Phe Tyr	Ser Leu Lys Arg Ser	Arg Ser Lys Phe Gln	Lys		
	470	475	480		
Asn Thr Val Ser	Ser Gly Pro Trp Glu	Pro Pro Ala Arg Pro	Gly		
	485	490	495		
Thr Leu Phe Ser	Pro Glu Asn His Asp	Gln Ala Arg Glu Arg	Lys		
	500	505	510		
Pro Ala Lys Gln	Lys Val Pro Leu Leu	Ser Cys Pro Ser Gln	Pro		
	515	520	525		
Phe Thr Ser Lys	Leu Ala Leu Leu Gly	Gln Val Phe Leu Asp	Ser		
	530	535	540		
Ser					

<210> 182  
 <211> 2056  
 <212> DNA  
 <213> Homo sapiens

<400> 182  
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 catctgggtt tgggcagaaa ggagggtgct tcggagcccg ccctttctga 100  
 gcttcctggg ccggctctag aacaattcag gcttcgctgc gactcagacc 150  
 tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200  
 gctttatttt ggaaagaaac aatgttctag gtcaaactga gtctaccaa 250  
 tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300  
 tggtttttct acgcattgat tccatgtttg ctcacagatg aagtggccat 350  
 tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400  
 tcttgatgtg gagcccagtg atcggcctg gagaaacagt gtactattct 450  
 gtogaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500  
 cccagcagc tgggtgtcac tactgaagg tcttgagtgt gatgtcactg 550  
 atgacatcac ggccactgtg ccatacaacc ttcgtgtcag ggccacattg 600  
 ggctcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650  
 ctcaaccatc cttacccgac ctgggatgga gatcaccaaa gatggcttcc 700  
 acctggttat tgagctggag gacctggggc ccagtttga gttccttgtg 750  
 gcctactgga ggaggagcc tggtgccgag gaacatgtca aaatggtgag 800  
 gagtgggggt attccagtgc acctagaaac catggagcca ggggctgcat 850

actgtgtgaa ggcccagaca ttcgtgaagg ccattgggag gtacagcgcc 900  
 ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca ttcccctggt 950  
 actggccctg tttgcctttg ttggcttcat gctgacctt gtggtcgtgc 1000  
 cactgttcgt ctggaaaatg ggccggctgc tccagtactc ctgttgcccc 1050  
 gtggtggtcc tcccagacac cttgaaaata accaattcac cccagaagtt 1100  
 aatcagctgc agaaggagg aggtggatgc ctgtgccacg gctgtgatgt 1150  
 ctctgagga actcctcagg gcctggatct cataggtttg cggaagggcc 1200  
 caggtgaagc cgagaacctg gtctgcatga catggaaacc atgaggggac 1250  
 aagttgtgtt tctgttttcc gccacggaca agggatgaga gaagtaggaa 1300  
 gagcctgttg tctacaagtc tagaagcaac catcagaggc aggggtggtt 1350  
 gtctaacaga aactgactg aggccttaggg gatgtgacct ctagactggg 1400  
 ggctgccact tgctggctga gcaaccctgg gaaaagtgc ttcatccctt 1450  
 cggtcctaag ttttctcatc tgtaatgggg gaattaccta cacacctgct 1500  
 aaacacacac acacagagtc tctctctata tatacacacg tacacataaa 1550  
 tacaccagc acttgcaagg ctagagggaa actggtgaca ctctacagtc 1600  
 tgactgattc agtgtttctg gagagcagga cataaatgta tgatgagaat 1650  
 gatcaaggac tctacacact ggggtggcttg gagagccac tttcccagaa 1700  
 taatccttga gagaaaagga atcatgggag caatgggtgtt gaggtaactt 1750  
 caagcccaat gcoggtgcag aggggaatgg cttagcgagc tctacagtag 1800  
 gtgacctgga ggaaggtcac agccacactg aaaatgggat gtgcatgaac 1850  
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 agacagcagg tgaaatgtat gtgtgcaatg cgacgagaat gcagaagtca 1950  
 gtaacatgtg catgtttgtt gtgctccttt tttctgttgg taaagtacag 2000  
 aattcagcaa ataaaaaggg ccaccctggc caaaagcggc aaaaaaaaaa 2050  
 aaaaaa 2056

<210> 183  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-29  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

Met Gln Thr Phe Thr Met Val Leu Glu Glu Ile Trp Thr Ser Leu  
1 5 10 15

Phe Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp  
20 25 30

Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser  
35 40 45

Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro  
50 55 60

Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu  
65 70 75

Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser  
80 85 90

Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala  
95 100 105

Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln  
110 115 120

Thr Ser Ala Trp Ser Ile Leu Lys His Pro Phe Asn Arg Asn Ser  
125 130 135

Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe  
140 145 150

His Leu Val Ile Glu Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe  
155 160 165

Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu His Val  
170 175 180

Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr Met  
185 190 195

Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe Val Lys  
200 205 210

Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu  
215 220 225



Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
				230					235					240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp
				245					250					255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val
				260					265					270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile
				275					280					285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met
				290					295					300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser				
				305					310					

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
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 tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
 agaatgcttt attttggaaa gaaacaatgt tctaggtcaa actgagtcta 200  
 ccaaatgcag actttcaciaa tggttctaga agaaatctgg acaagtcttt 250  
 tcatgtgggtt tttctacgca ttgattccat gtttgctcac agatgaagtg 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
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 tggatcccca gcagctggtg ctactcact gaaggtcctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggcca 550  
 cattgggctc acagacctca gcctggagca tcctgaagca tccctttaat 600  
 agaaactcaa ccatacttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggcgaacccc ttgcgpcgca aggggttngc 750  
 gaacccttg cggccgctgg ggtatctctc gagaaaagag aggcccaata 800  
 tgaccac 808

<210> 185  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 185  
 aggcttcgct gcgactagac ctc 23

<210> 186  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 186  
 ccaggtcggg taaggatggg tgag 24

<210> 187  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 187  
 tttctacgca ttgattccat gtttgctcac agatgaagtg gccattctgc 50

<210> 188  
 <211> 1227  
 <212> DNA  
 <213> Homo sapiens

<400> 188  
 cggaacgctg ggccgccacc tccggaacaa gccatgggtg cggcgacggt 50  
 ggcagcggcg tggctgctcc tgtgggctgc ggcctgcgcg cagcaggagc 100  
 aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtcg 150  
 ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
 gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
 acctgggccc ccaccacttt aacgtgctcg ccttcccctg caaccagttt 300  
 ggccaacagg agcctgacag caacaaggag attgagagct ttgcccgcgc 350  
 cacctacagt gtctcattcc ccatgtttag caagattgca gtcaccggta 400  
 ctggtgccca tctgccttc aagtacctgg ccagacttc tgggaaggag 450  
 ccacactgga acttctggaa gtacctagta gcccagatg gaaaggtggt 500  
 aggggcttgg gacccaactg tgtcagtga ggaggtcaga cccagatca 550  
 cagcgctcgt gaggaagctc atcctactga agcgagaaga cttataacca 600

ccgcgtctcc tcctccacca cctcatcccg cccacctgtg tggggctgac 650  
 caatgcaaac tcaaagtgtg cttcaaaggg agagaccac tgactctcct 700  
 tcctttactc ttatgccatt ggtcccatca ttcttgtggg ggaaaaattc 750  
 tagtatTTTTg attatttgaa tcttacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccgatacgaa cgtcttgcca 850  
 acaaaaatgt gtggcaaata gaagtatatc aagcaataat ctcccaccca 900  
 aggcttctgt aaactgggac caatgattac ctcatagggc tgttgtgagg 950  
 attaggatga aatacctgtg aaagtgccta ggcagtgcc a gccaaatagg 1000  
 aggcatccta tgaacatitt ttgcatataa accaaaaaat aacttgttat 1050  
 caataaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaagggttta gttgttgta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgcaa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 189  
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   1                  5                  10                  15  
 Ala Ala Cys Ala Gln Gln Glu Gln Asp Phe Tyr Asp Phe Lys Ala  
                   20                  25                  30  
 Val Asn Ile Arg Gly Lys Leu Val Ser Leu Glu Lys Tyr Arg Gly  
                   35                  40                  45  
 Ser Val Ser Leu Val Val Asn Val Ala Ser Glu Cys Gly Phe Thr  
                   50                  55                  60  
 Asp Gln His Tyr Arg Ala Leu Gln Gln Leu Gln Arg Asp Leu Gly  
                   65                  70                  75  
 Pro His His Phe Asn Val Leu Ala Phe Pro Cys Asn Gln Phe Gly  
                   80                  85                  90  
 Gln Gln Glu Pro Asp Ser Asn Lys Glu Ile Glu Ser Phe Ala Arg  
                   95                  100                  105  
 Arg Thr Tyr Ser Val Ser Phe Pro Met Phe Ser Lys Ile Ala Val  
                   110                  115                  120  
 Thr Gly Thr Gly Ala His Pro Ala Phe Lys Tyr Leu Ala Gln Thr  
                   125                  130                  135  
 Ser Gly Lys Glu Pro Thr Trp Asn Phe Trp Lys Tyr Leu Val Ala  
                   140                  145                  150  
 Pro Asp Gly Lys Val Val Gly Ala Trp Asp Pro Thr Val Ser Val

	155		160		165
Glu Glu Val Arg	Pro Gln Ile Thr Ala	Leu Val Arg Lys Leu Ile			
	170	175		180	
Leu Leu Lys Arg	Glu Asp Leu				
	185				

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaactgg tgctgctgga gaagtaccgc ggatcgggtgt 50

<210> 193  
 <211> 2187  
 <212> DNA  
 <213> Homo sapiens

<400> 193  
 cggacgcgtg ggcgggcccgg gacgcagggc aaagcgagcc atggctgtct 50  
 acgtcgggat gctgcgcctg gggaggctgt gcgccgggag ctcggggggtg 100  
 ctggggggccc gggccggcct ctctcgaggt tggcaggaag ccaggttgca 150  
 ggggtgtccgc ttcctcagtt ccagagaggt ggatcgcgat gtctccacgc 200  
 ccatcggagg cctcagctac gttcaggggt gcacaaaaa gcattctaac 250  
 agcaagactg tgggcccagt cctggagacc acagcacaga ggggtcccaga 300  
 acgagaggcc ttggtcgtcc tccatgaaga cgtcagggtg acctttgccc 350  
 aactcaagga ggaggtggac aaagctgctt ctggcctect gagcattggc 400

ctctgcaaag gtgaccggct gggcatgtgg ggacctaact cctatgcatg 450  
 ggtgctcatg cagttggcca ccgcccaggg gggcatcatt ctggtgtctg 500  
 tgaaccagc ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
 ggctgcaagg cccttgtgtt cccaagcaa ttcaagacct agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcac ctcggtggat 700  
 gcccctttgc cggggaccct gctcctggat gaagtgggtg cggtcggcag 750  
 cacacggcag catctggacc agctccaata caaccagcag ttctgtcct 800  
 gccatgacct catcaacatc cagttcacct cggggacaac aggcagcccc 850  
 aagggggcca ccctctcca ctacaacatt gtcaacaact ccaacatttt 900  
 aggagagcgc ctgaaactgc atgagaagac accagagcag ttgcggatga 950  
 tcctgcccaa cccctgtac cattgcctgg gttccgtggc aggcacaatg 1000  
 atgtgtctga tgtacgggtg caccctcatc ctggcctctc ccattctcaa 1050  
 tggcaagaag gcaactggagg ccatcagcag agagagaggc accttctgt 1100  
 atggtacccc cactatgttc gtggacattc tgaaccagcc agacttctcc 1150  
 agttatgaca tctcgaccat gtgtggagggt gtcattgctg ggtcccctgc 1200  
 acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
 tgggtggttg ttatggaacc acagagaaca gtcccgtgac attcgcgcac 1300  
 ttccctgagg aactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350  
 gcctcacacg gaggcccgga tcatgaacat ggaggcaggg acgctggcaa 1400  
 agctgaacac gccgggggag ctgtgcatcc gaggggtactg cgtcatgctg 1450  
 ggctactggg gtgagcctca gaagacagag gaagcagtgg atcaggacaa 1500  
 gtggtattgg acaggagatg tcgccacaat gaatgagcag ggcttctgca 1550  
 agatcgtggg ccgctctaag gatatgatca tccgggggtg tgagaacatc 1600  
 taccocgcag agctcgagga cttctttcac acacaccga aggtgcagga 1650  
 agtgcagggt gtgggagtga aggacgatcg gatgggggaa gagatttgtg 1700  
 cctgcattcg gctgaaggac ggggaggaga ccacggtgga ggagataaaa 1750  
 gctttctgca aagggaagat ctctcacttc aagattccga agtacatcgt 1800  
 gtttgtcaca aactaccccc tcaccatttc aggaaagatc cagaaattca 1850  
 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gcctgtcctg gccggttggc ttgactctct cctgtcagaa tgcaacctgg 1950  
 ctttatgcac ctagatgtcc ccagcaccca gttctgagcc aggcacatca 2000

aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
aactcgcctg ggcacaaggt gccaaaaggc aggcagcctg cccaggccct 2100  
ccctcctgtc catccccac attccctgt ctgtccttgt gatttgcat 2150  
aaagagcttc tgttttcttt gaaaaaaaaa aaaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194  
Met Ala Val Tyr Val Gly Met Leu Arg Leu Gly Arg Leu Cys Ala  
1 5 10 15  
Gly Ser Ser Gly Val Leu Gly Ala Arg Ala Ala Leu Ser Arg Ser  
20 25 30  
Trp Gln Glu Ala Arg Leu Gln Gly Val Arg Phe Leu Ser Ser Arg  
35 40 45  
Glu Val Asp Arg Met Val Ser Thr Pro Ile Gly Gly Leu Ser Tyr  
50 55 60  
Val Gln Gly Cys Thr Lys Lys His Leu Asn Ser Lys Thr Val Gly  
65 70 75  
Gln Cys Leu Glu Thr Thr Ala Gln Arg Val Pro Glu Arg Glu Ala  
80 85 90  
Leu Val Val Leu His Glu Asp Val Arg Leu Thr Phe Ala Gln Leu  
95 100 105  
Lys Glu Glu Val Asp Lys Ala Ala Ser Gly Leu Leu Ser Ile Gly  
110 115 120  
Leu Cys Lys Gly Asp Arg Leu Gly Met Trp Gly Pro Asn Ser Tyr  
125 130 135  
Ala Trp Val Leu Met Gln Leu Ala Thr Ala Gln Ala Gly Ile Ile  
140 145 150  
Leu Val Ser Val Asn Pro Ala Tyr Gln Ala Met Glu Leu Glu Tyr  
155 160 165  
Val Leu Lys Lys Val Gly Cys Lys Ala Leu Val Phe Pro Lys Gln  
170 175 180  
Phe Lys Thr Gln Gln Tyr Tyr Asn Val Leu Lys Gln Ile Cys Pro  
185 190 195  
Glu Val Glu Asn Ala Gln Pro Gly Ala Leu Lys Ser Gln Arg Leu  
200 205 210  
Pro Asp Leu Thr Thr Val Ile Ser Val Asp Ala Pro Leu Pro Gly  
215 220 225  
Thr Leu Leu Leu Asp Glu Val Val Ala Ala Gly Ser Thr Arg Gln  
230 235 240  
His Leu Asp Gln Leu Gln Tyr Asn Gln Gln Phe Leu Ser Cys His

	245		250		255
Asp Pro Ile Asn	Ile Gln Phe Thr Ser	Gly Thr Thr Gly Ser	Pro		
	260		265		270
Lys Gly Ala Thr	Leu Ser His Tyr Asn	Ile Val Asn Asn Ser	Asn		
	275		280		285
Ile Leu Gly Glu	Arg Leu Lys Leu His	Glu Lys Thr Pro Glu	Gln		
	290		295		300
Leu Arg Met Ile	Leu Pro Asn Pro Leu	Tyr His Cys Leu Gly	Ser		
	305		310		315
Val Ala Gly Thr	Met Met Cys Leu Met	Tyr Gly Ala Thr Leu	Ile		
	320		325		330
Leu Ala Ser Pro	Ile Phe Asn Gly Lys	Lys Ala Leu Glu Ala	Ile		
	335		340		345
Ser Arg Glu Arg	Gly Thr Phe Leu Tyr	Gly Thr Pro Thr Met	Phe		
	350		355		360
Val Asp Ile Leu	Asn Gln Pro Asp Phe	Ser Ser Tyr Asp Ile	Ser		
	365		370		375
Thr Met Cys Gly	Gly Val Ile Ala Gly	Ser Pro Ala Pro Pro	Glu		
	380		385		390
Leu Ile Arg Ala	Ile Ile Asn Lys Ile	Asn Met Lys Asp Leu	Val		
	395		400		405
Val Ala Tyr Gly	Thr Thr Glu Asn Ser	Pro Val Thr Phe Ala	His		
	410		415		420
Phe Pro Glu Asp	Thr Val Glu Gln Lys	Ala Glu Ser Val Gly	Arg		
	425		430		435
Ile Met Pro His	Thr Glu Ala Arg Ile	Met Asn Met Glu Ala	Gly		
	440		445		450
Thr Leu Ala Lys	Leu Asn Thr Pro Gly	Glu Leu Cys Ile Arg	Gly		
	455		460		465
Tyr Cys Val Met	Leu Gly Tyr Trp Gly	Glu Pro Gln Lys Thr	Glu		
	470		475		480
Glu Ala Val Asp	Gln Asp Lys Trp Tyr	Trp Thr Gly Asp Val	Ala		
	485		490		495
Thr Met Asn Glu	Gln Gly Phe Cys Lys	Ile Val Gly Arg Ser	Lys		
	500		505		510
Asp Met Ile Ile	Arg Gly Gly Glu Asn	Ile Tyr Pro Ala Glu	Leu		
	515		520		525
Glu Asp Phe Phe	His Thr His Pro Lys	Val Gln Glu Val Gln	Val		
	530		535		540
Val Gly Val Lys	Asp Asp Arg Met Gly	Glu Glu Ile Cys Ala	Cys		
	545		550		555
Ile Arg Leu Lys	Asp Gly Glu Glu Thr	Thr Val Glu Glu Ile	Lys		

	560		565		570
Ala Phe Cys Lys Gly Lys Ile Ser His Phe Lys Ile Pro Lys Tyr	575		580		585
Ile Val Phe Val Thr Asn Tyr Pro Leu Thr Ile Ser Gly Lys Ile	590		595		600
Gln Lys Phe Lys Leu Arg Glu Gln Met Glu Arg His Leu Asn Leu	605		610		615

<210> 195  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 195  
 caactccaac attttaggag agcgcoctgaa actgcatgag aagacaccag 50  
 agcagttgcg gatgatcctg cccaaccccc tgtaccattg cctggggttcc 100  
 gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatcctggc 150  
 ctctcccatc ttcaatggca agaaggcact ggaggccatc agcagagaga 200  
 gaggcacctt cctgtatggt accccacga tgttcgtgga cattctgaac 250  
 cagccagact tctccagtta tgacatctcg accatgtgtg gaggtgtcat 300  
 tgctgggtcc cctgcacctc cagagttgat ccgagccatc atcaacaaga 350  
 taaatatgaa ggacctggtg gttgcttatg gaaccacaga gaacagtccc 400  
 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaag 450  
 cgtgggcaga attatgctc acacggaggc gcggatcatg aacatggagg 500  
 cagggacgct ggcaaagctg aacacgcccg gggagctgtg catccgaggg 550  
 tactgcgta tgctgggcta ctggggtgag cctcagaaga cagaggaagc 600  
 agtggatcag gacaagtggg attggacagg agatgtcgcc ac 642

<210> 196  
 <211> 1575  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
 gagcaggacg gagccatgga ccccgccagg aaagcaggtg cccaggccat 50  
 gatctggact gcaggctggc tgctgctgct gctgcttcgc ggaggagcgc 100  
 aggcocctgga gtgctacagc tgcgtgcaga aagcagatga cggatgctcc 150  
 ccgaacaaga tgaagacagt gaagtgcgcg ccgggctgtg acgtctgcac 200  
 cgaggccgtg ggggctgtg agaccatcca cggacaattc tcgctggcag 250  
 tgcggggttg cggttcggga ctccccggca agaataaccg cggcctggat 300  
 cttcacgggc ttctggcgtt catccagctg cagcaatgcg ctcaggatcg 350



ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac ccggcaggta 400  
atgagagtgc ataccgcgcc aacggcgtgg agtgctacag ctgtgtgggc 450  
ctgagccggg aggcgtgccg gggtagatcg ccgccggtcg tgagctgcta 500  
caacgccagc gatcatgtct acaagggctg cttcgacggc aacgtcacct 550  
tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
gatgaattct gcaactcgga tggagtaaca ggcccagggt tcacgctcag 650  
tggctcctgt tgccaggggt cccgctgtaa ctctgacctc cgcaacaaga 700  
cctacttctc ccctogaatc ccacccttg tccggtgcc ccctccagag 750  
cccacgactg tggcctcaac cacatctgtc accacttcta cctcggcccc 800  
agtgagaccc acatccacca ccaaaccat gccagcgcca accagtcaga 850  
ctccgagaca gggagtagaa cagcaggcct cccgggatga ggagcccagg 900  
ttgactggag gcgcgctgg ccaccaggac cgcagcaatt cagggcagta 950  
tcctgcaaaa ggggggcccc agcagcccca taataaaggc tgtgtggctc 1000  
ccacagctgg attggcagcc cttctgttgg ccgtggctgc tgggtgccta 1050  
ctgtgagctt ctccacotgg aaatttcct ctcacctact tctctggccc 1100  
tgggtacccc tcttctcatc acttctgtt cccaccactg gactgggctg 1150  
gcccagcccc tgtttttcca acattcccca gtatccccag cttctgctgc 1200  
gctggtttgc ggctttggga aataaaatac cgttgatat attctgccag 1250  
gggtgttcta gctttttgag gacagctcct gtatccttct catccttgtc 1300  
tctcgccttg tcctcttgtg atgttaggac agagtgagag aagtcagctg 1350  
tcacggggaa ggtgagagag aggatgctaa gcttcctact cactttctcc 1400  
tagccagcct ggactttgga gcgtgggggt ggtgggacaa tggctcccca 1450  
ctctaagcac tgcctcccct actccccga tctttgggga atcggttccc 1500  
catatgtctt ccttactaga ctgtgagctc ctcgaggggg ggcccggtag 1550  
ccaattcgcc ctatagttag tcgta 1575

<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

Met Asp Pro Ala Arg Lys Ala Gly Ala Gln Ala Met Ile Trp Thr  
1 5 10 15

Ala Gly Trp Leu Leu Leu Leu Leu Arg Gly Gly Ala Gln Ala  
20 25 30

Leu Glu Cys Tyr Ser Cys Val Gln Lys Ala Asp Asp Gly Cys Ser



<210> 198  
<211> 1657  
<212> DNA  
<213> Homo sapiens

<400> 198  
cgggactcgg cgggtcctcc tgggagtoto ggaggggacc ggctgtgcag 50  
acgccatgga gttggtgctg gtcttcctct gcagcctgct ggcccccatg 100  
gtcctggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
tctcggttgg gatcctcctt atcctaagtc gcaggtgcaa gtgcagtttc 250  
aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
catcacccgc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
catcaggtgg aagcctctgg aacctgaggc ggctgcttga acctttggat 400  
gcaaattgctg atgcttaaga aaaccggcca cttcagcaac agccctttcc 450  
ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
gcggtcctgc ccacctcccg tgatgtgtgt gtgtgtgtgt gtgtgtgact 600  
gtgtgtgttt gctaactgtg gtctttgtgg ctacttgttt gtggatggta 650  
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cacatggcca tctgtctctc cctgcccccg tggccctcca tcaccttctg 750  
ctcctaggag gctgcttggt gcccgagacc agccccctcc cctgatttag 800  
ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tcttgggacc 850  
tgggaagggt tgcagcactt tgtcatcatt cttcatggac tcctttcact 900  
cctttaacaa aaacottgct tccttatccc acctgatccc agtctgaagg 950  
tctcttagca actggagata caaagcaagg agctggtgag cccagcgttg 1000  
acgtcaggca ggctatgccc ttccgtggtt aatttcttcc caggggcttc 1050  
cacgaggagt ccccatctgc cccgcccctt cacagagcgc ccggggattc 1100  
caggcccagg gcttctactc tgcccctggg gaatgtgtcc cctgcataac 1150  
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cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
cagtccctgc aattgggtct ctggcaggca atagttgaag gactcctgtt 1300  
ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
cttctctgcc tacgtcccct tagatgggca gcagaggcaa ctcccgcac 1400

ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttggaga 1450  
 ctcagcaggc tccgtgcagc ccttggaac agtgagaggt tgaaggtcat 1500  
 aacgagagtg ggaactcaac ccagatccccg cccctcctgt cctctgtgtt 1550  
 cccgcggaaa ccaaccaaac cgtgcgctgt gaccattgc tgttctctgt 1600  
 atcgtgatct atcctcaaca acaacagaaa aaaggaataa aatatccttt 1650  
 gtttcct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met  
 1 5 10 15  
 Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
 20 25 30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
 35 40 45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
 50 55 60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
 65 70 75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
 80 85 90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
 95 100 105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
 110 115 120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
 aaacttgacg ccatgaagat cccggtcctt cctgccgtgg tgctcctctc 50  
 cctcctgggtg ctccactctg cccagggagc caccctgggt ggtcctgagg 100  
 aagaaagcac cattgagaat tatgcgtcac gacccgaggc ctttaacacc 150  
 ccgttcctga acatcgacaa attgcatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cagccctct ttgagtctat caaaaggaaa cttcctttcc 250  
 tcaactggga tgcctttcct aagctgaaag gactgaggag cgcaactcct 300  
 gatgccagtg gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
 tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201

<211> 99

<212> PRT

<213> Homo sapiens

<400> 201

Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu  
1 5 10 15  
Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu  
20 25 30  
Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn  
35 40 45  
Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala  
50 55 60  
Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg  
65 70 75  
Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly  
80 85 90  
Leu Arg Ser Ala Thr Pro Asp Ala Gln  
95

<210> 202

<211> 678

<212> DNA

<213> Homo sapiens

<400> 202

cagttctgaa atcaatggag ttaatttagg gaatacaaac cagccatggg 50  
ggtggagatt gcctttgcct cagtgattct cacctgcctc tcccttctgg 100  
cagcaggagt ctcccagggt gttcttctcc agccagttcc aactcaggag 150  
acaggtccca aggccatggg agatctctcc tgttgctttg ccggccactc 200  
atgagagtgt ttttgtgtaa agtatttttt agaatactgt tgacttcttc 250  
atgatttaat aaccatcctt tgcaagttt tatgaggctt taggggaatg 300  
tcaaccctca aatttttggt atactagatg gcttccattt acccaccact 350  
attttaaggt ccctttatct ttaggttcaa gggttcattg acttgagaaa 400  
gtgcccttct gcagcttcat tgattttggt tatcttcact attaattgta 450  
acgattaaaa aagaataaga gcacgcagac ctctaggaga atattttatc 500  
cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattggt 550  
aatttaaagt ttattctaatt attagtagat tcagttgtga tgtaatatga 600  
ataaccagaa tctatttctt aaaagtttg agtatatttt tcaactagat 650  
atttgtatag aaagactgaa tagtgatg 678

<210> 203  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
 Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
     1                    5                    10                    15  
 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
                     20                    25                    30  
 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
                     35                    40                    45  
 Cys Gly Phe Ala Gly His Ser  
                     50

<210> 204  
 <211> 1917  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
 ggggaatctg cagtaggtct gccggcgatg gagtgggtggg ctagctcgcc 50  
 gcttcggctc tggctgctgt tgttcctcct gccctcagcg cagggccgcc 100  
 agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
 tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
 tgggtgtcata gaagaggatc taactccttt ccgaggaggc atctccagga 250  
 agatgatggc agaggtagtc agacggaagc tagggaccca ctatcagatc 300  
 actaagaaca gactgtaccg ggaaaatgac tgcattgttc cctcaagggtg 350  
 tagtgggtgtt gagcacttta ttttggaagt gatcgggcgt ctccctgaca 400  
 tggagatggg gatcaatgta cgagattatc ctcagggttc taaatggatg 450  
 gagcctgcca tcccagtctt ctccttcagt aagacatcag agtaccatga 500  
 tatcatgtat cctgcttgga cattttggga agggggacct gctgtttggc 550  
 caatttatcc tacagggtctt ggacgggtggg acctcttcag agaagatctg 600  
 gtaagggtcag cagcacagtg gccatggaaa aagaaaaact ctacagcata 650  
 tttccgagga tcaaggacaa gtccagaacg agatcctctc attcttctgt 700  
 ctcggaaaaa cccaaaactt gttgatgcag aatacaccaa aaaccaggcc 750  
 tggaaatcta tgaaagatac cttaggaaag ccagctgcta aggatgtcca 800  
 tcttgtggat cactgcaa atacaagtatct gtttaatttt cgaggcgtag 850  
 ctgcaagtgt cgggtttaaa cacctcttcc tgtgtggctc acttgttttc 900  
 catgttgggt atgagtggct agaattcttc tatccacagc tgaagccatg 950  
 gggttactat atcccagtca aaacagatct ctccaatgtc caagagctgt 1000

tacaatttgt aaaagcaaat gatgatgtag ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctggggagaac ctcttgagtg aatactctaa attcctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaaatggt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
 gatatcctac ggtgagaagc ttaccataag cttggctcct ataccttgaa 1300  
 tatctgctat caagccaaat acctggtttt ccttatcatg ctgcaccag 1350  
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 agttcaactt tttggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
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 gaagtagtac aactcattgc tggaattgtg aaattattca aggcgtgatc 1650  
 tctgtcactt tattttaatg taggaaaccc tatgggggtt atgaaaaata 1700  
 cttggggatc attctctgaa tgggtctaagg aagcggtagc catgccatgc 1750  
 aatgatgtag gagttctctt ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
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 gcctctctaa agccaaa 1917

<210> 205  
 <211> 392  
 <212> PRT  
 <213> Homo sapiens

<400> 205  
 Met Glu Trp Trp Ala Ser Ser Pro Leu Arg Leu Trp Leu Leu Leu  
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 Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser  
 20 25 30  
 Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn  
 35 40 45  
 Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val  
 50 55 60  
 Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys  
 65 70 75  
 Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln  
 80 85 90  
 Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro





<211> 1425  
<212> DNA  
<213> Homo sapiens

<400> 206  
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ccctgcctc tttcatcctg gcctttggca cggagtgga gttcgtgcgc 100  
tttaacctcc ttcgccact tcttgaggg atcccggagt ctggtggtcc 150  
ggatgcccgc cagggatggc tggctgccct gcaggaccgc agcatccttg 200  
ccccctggc atgggatctg gggctcctgc ttctatttgt tgggcagcac 250  
agcctcatgg cagctgaaag agtgaaggca tggacatccc ggtactttgg 300  
ggctccttcag aggtcactgt atgtggcctg cactgccctg gccttcgacg 350  
tggatgatgc gtactgggag ccataccca aaggccctgt gttgtgggag 400  
gctcgggctg agccatgggc cacctgggtg ccgctcctct gctttgtgct 450  
ccatgtcatc tcttggtctc tcatctttag catccttctc gtctttgact 500  
atgotgagct catgggcctc aaacaggtat actaccatgt gctggggctg 550  
ggcgagcctc tggccctgaa gtctccccgg gctctcagac tcttctccca 600  
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ctgggcctgg ctcacgggct tgatcagcaa gacctccgct acctccgggc 750  
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caaatccatg gactgaagga gatgccctt ctactacttg agactttatt 950  
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caagggtccac ttctcaccag caaggaagag tggggtatgg aagtcactctg 1050  
tcccttcaact gtttagagca tgacactctc cccctcaaca gcctcctgag 1100  
aaggaaagga tctgccctga ccactcccct ggcactgtta cttgcctctg 1150  
cgctcaggg gtcccttct gcaccgctgg cttccactcc aagaagggtg 1200  
accagggtct gcaagttcaa cggcatagc tgtccctcca ggccccaacc 1250  
ttgcctcacc actcccggcc ctagtctctg cacctcotta ggccctgcct 1300  
ctgggctcag accccaacct agtcaagggg attctcctgc tottaactog 1350  
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aaagtcagcc tttttctaaa aaaa 1425

<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe
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Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser
				20					25					30
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp
				35					40					45
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu
				50					55					60
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Leu	Phe	Val	Gly
				65					70					75
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser
				80					85					90
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr
				95					100					105
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro
				110					115					120
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr
				125					130					135
Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu
				140					145					150
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met
				155					160					165
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro
				170					175					180
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu
				185					190					195
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val
				200					205					210
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr
				215					220					225
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg
				230					235					240
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg
				245					250					255
Pro	Gln	Asp	Gly	Glu	Ala	Glu								
				260										

<210> 208  
 <211> 2095  
 <212> DNA

<213> Homo sapiens

<400> 208

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gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150  
caacaaaaaa ctttaagcttt aatttcatct ggaattccac agttttctta 200  
gtcccttgga cccggttgac ctgttggctc ttcccgtgg ctgctctatc 250  
acgtggtgct ctccgaactac tcaccccgag tgtaaagaac cttcggctcg 300  
cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350  
gagtaggatg tcaactgagat ccctcaaag gagcctcctg ctgctgtcac 400  
tcctgagttt ctttgtgatg tggtaacctca gccttcccca ctacaatgtg 450  
atagaacgcg tgaactggat gtacttctat gagtatgagc cgatttacag 500  
acaagacttt cacttcacac ttcgagagca ttcaaactgc tctcatcaaa 550  
atccatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600  
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tgaggttctt acatttttct tattaggcca agaggctgaa aaggaagaca 700  
aaatgttggc attgtcctta gaggatgaac accttcttta tggtgacata 750  
atccgacaag atttttttaga cacatataat aacctgacct tgaaaacccat 800  
tatggcattc aggtgggtaa ctgagttttg cccaatgcc aagtacgtaa 850  
tgaagacaga cactgatgtt ttcacataa ctggcaattt agtgaagtat 900  
cttttaaacc taaaccactc agagaagttt ttcacagggt atcctctaata 950  
tgataattat tcctatagag gattttacca aaaaacccat atttcttacc 1000  
aggagtatcc tttcaagggt ttccctccat actgcagtgg gttgggttat 1050  
ataatgtcca gagatttggt gccaaagatc tatgaaatga tgggtcacgt 1100  
aaaacccatc aagtttgaag atgtttatgt cgggatctgt ttgaatttat 1150  
taaaagtga cattcatatt ccagaagaca caaatctttt ctttctatat 1200  
agaatccatt tggatgtctg tcaactgaga cgtgtgattg cagcccatgg 1250  
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ggaggtcagt gtgctggctt acactgaact gaaactcatg aaaaaccag 1450  
actggagact ggagggttac acttgtgatt tattagtcag gcccttcaaa 1500

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gaaattaata ggaccaaaca atttggacat gtcattctgt agactagaat 1600  
ttcttaaaag ggtgttactg agttataagc tcactaggct gtaaaaacaa 1650  
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caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950  
tacttaactg atcagtttat tattgataca tcactccatt aatgtaaagt 2000  
cataggtcat tattgcatat cagtaatctc ttggactttg ttaaataattt 2050  
tactgtggta atatagagaa gaattaaagc aagaaaatct gaaaa 2095

<210> 209  
<211> 331  
<212> PRT  
<213> Homo sapiens

<400> 209  
Met Ala Ser Ala Leu Trp Thr Val Leu Pro Ser Arg Met Ser Leu  
1 5 10 15  
Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe  
20 25 30  
Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
35 40 45  
Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
50 55 60  
Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
65 70 75  
Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
80 85 90  
Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
95 100 105  
Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
110 115 120  
Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
125 130 135  
Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
140 145 150  
Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
155 160 165

Val	Thr	Glu	Phe	Cys	Pro	Asn	Ala	Lys	Tyr	Val	Met	Lys	Thr	Asp
				170					175					180
Thr	Asp	Val	Phe	Ile	Asn	Thr	Gly	Asn	Leu	Val	Lys	Tyr	Leu	Leu
				185					190					195
Asn	Leu	Asn	His	Ser	Glu	Lys	Phe	Phe	Thr	Gly	Tyr	Pro	Leu	Ile
				200					205					210
Asp	Asn	Tyr	Ser	Tyr	Arg	Gly	Phe	Tyr	Gln	Lys	Thr	His	Ile	Ser
				215					220					225
Tyr	Gln	Glu	Tyr	Pro	Phe	Lys	Val	Phe	Pro	Pro	Tyr	Cys	Ser	Gly
				230					235					240
Leu	Gly	Tyr	Ile	Met	Ser	Arg	Asp	Leu	Val	Pro	Arg	Ile	Tyr	Glu
				245					250					255
Met	Met	Gly	His	Val	Lys	Pro	Ile	Lys	Phe	Glu	Asp	Val	Tyr	Val
				260					265					270
Gly	Ile	Cys	Leu	Asn	Leu	Leu	Lys	Val	Asn	Ile	His	Ile	Pro	Glu
				275					280					285
Asp	Thr	Asn	Leu	Phe	Phe	Leu	Tyr	Arg	Ile	His	Leu	Asp	Val	Cys
				290					295					300
Gln	Leu	Arg	Arg	Val	Ile	Ala	Ala	His	Gly	Phe	Ser	Ser	Lys	Glu
				305					310					315
Ile	Ile	Thr	Phe	Trp	Gln	Val	Met	Leu	Arg	Asn	Thr	Thr	Cys	His
				320					325					330

Tyr

<210> 210  
 <211> 745  
 <212> DNA  
 <213> Homo sapiens

<400> 210  
 cctctgtcca ctgctttcgt gaagacaaga tgaagttcac aattgtcttt 50  
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 caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150  
 gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
 gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250  
 actctttcaa aagaagacat gcattgtgca caaaatgaac aaggaagtca 300  
 tgccctccat tcaatccctt gatgcactgg tcaaggaaaa gaagcttcag 350  
 ggtaagggac caggaggacc acctcccaag ggctgatgt actcagtcaa 400  
 cccaaacaaa gtcgatgacc tgagcaagtt cggaaaaaac attgcaaaca 450  
 tgtgtcgtgg gattccaaca tacatggctg aggagatgca agaggcaagc 500  
 ctgttttttt actcaggaac gtgctacacg accagtgtac tatggattgt 550

ggacatttcc ttctgtggag acacggtgga gaactaaaca attttttaaa 600  
gccactatgg atttagtcat ctgaatatgc tgtgcagaaa aaatatgggc 650  
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ttgattttctt taagtttcaa taaaatcatt tagcattgaa aaaaa 745

<210> 211  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
Met Lys Phe Thr Ile Val Phe Ala Gly Leu Leu Gly Val Phe Leu  
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Ala Pro Ala Leu Ala Asn Tyr Asn Ile Asn Val Asn Asp Asp Asn  
20 25 30  
Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
185

<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
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atgaaataat ttaaaagggc ttcgctcata tataggaaaa tcgcatatgg 150  
tcctagtatt aaattcttat tgcttactga tttttttgag ttaagagttg 200  
ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250  
ataaagtaga ttgagtctcc aatttttatgt aagcttcaga agaactgggt 300  
tgtttacatg caagcttata gttgaaatat ttttcaggaa ttacatgaat 350  
gacagtcttc gaaccaatgt gtttgttcga tttcaaccag agactatagc 400  
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ctcgtcccca ttggtttctt ctttttggtg ctacagaaga ggaaatccag 500  
gaaatctgca tagaaacact taggctttat accagaaaaa agccaaacta 550  
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ccaaattaaa agcaaagggg ttgaatccgg atggaactcc agccctttca 650  
accctgggtg gattttctcc agcctccaag ccatcatcac caagagaagt 700  
aaaagctgaa gagaaatcac caatctccat taatgtgaag acagtcaaaa 750  
aagaacctga ggatagacaa caggcttcca aaagccctta caatggtgta 800  
agaaaagaca gcaagagaag tagaaatagc agaagtgcaa gtcgatcgag 850  
gtcaagaaca cgatcacgtt ctagatcaca tactccaaga agacactata 900  
ataataggcg gagtcgatct ggaacataca gctcgagatc aagaagcagg 950  
tcccgagtc acagtgaag ccctcgaaga catcataatc atggttctcc 1000  
tcaccttaag gccaaagcata ccagagatga tttaaaaagt tcaaacagac 1050  
atggtcataa aaggaaaaaa tctcgttctc gatctcagag caagtctcgg 1100  
gatcactcag atgcagccaa gaaacacagg catgaaaggg gacatcatag 1150  
ggacaggcgt gaacgatctc gtccttttga gaggtcccat aaaagcaagc 1200  
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gtatggactc aatcaaaaac attaaacgca aactgattag gatttgattt 1350  
cttgaaaccc tctaggtctc tagaactctg aggacagttt cttttgaaaa 1400  
gaactatggt aatttttttg cacattaaaa tgccctagca gtatctaatt 1450  
aaaaaccatg gtcaggttca attgtacttt attatagttg tgtattgttt 1500  
attgctataa gaactggagc gtgaattctg taaaaatgta tcttattttt 1550  
atacagataa aattgcagac actgttctat ttaagtgggt atttgtttaa 1600  
atgatggtga atactttctt aacactgggt tgtctgcatg tgtaaagatt 1650  
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aaaagt 1706

<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

<400> 213

Met	Asn	Asp	Ser	Leu	Arg	Thr	Asn	Val	Phe	Val	Arg	Phe	Gln	Pro
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Glu	Thr	Ile	Ala	Cys	Ala	Cys	Ile	Tyr	Leu	Ala	Ala	Arg	Ala	Leu
				20					25					30
Gln	Ile	Pro	Leu	Pro	Thr	Arg	Pro	His	Trp	Phe	Leu	Leu	Phe	Gly
				35					40					45
Thr	Thr	Glu	Glu	Glu	Ile	Gln	Glu	Ile	Cys	Ile	Glu	Thr	Leu	Arg
				50					55					60
Leu	Tyr	Thr	Arg	Lys	Lys	Pro	Asn	Tyr	Glu	Leu	Leu	Glu	Lys	Glu
				65					70					75
Val	Glu	Lys	Arg	Lys	Val	Ala	Leu	Gln	Glu	Ala	Lys	Leu	Lys	Ala
				80					85					90
Lys	Gly	Leu	Asn	Pro	Asp	Gly	Thr	Pro	Ala	Leu	Ser	Thr	Leu	Gly
				95					100					105
Gly	Phe	Ser	Pro	Ala	Ser	Lys	Pro	Ser	Ser	Pro	Arg	Glu	Val	Lys
				110					115					120
Ala	Glu	Glu	Lys	Ser	Pro	Ile	Ser	Ile	Asn	Val	Lys	Thr	Val	Lys
				125					130					135
Lys	Glu	Pro	Glu	Asp	Arg	Gln	Gln	Ala	Ser	Lys	Ser	Pro	Tyr	Asn
				140					145					150
Gly	Val	Arg	Lys	Asp	Ser	Lys	Arg	Ser	Arg	Asn	Ser	Arg	Ser	Ala
				155					160					165
Ser	Arg	Ser	Arg	Ser	Arg	Thr	Arg	Ser	Arg	Ser	Arg	Ser	His	Thr
				170					175					180
Pro	Arg	Arg	His	Tyr	Asn	Asn	Arg	Arg	Ser	Arg	Ser	Gly	Thr	Tyr
				185					190					195
Ser	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Ser	Glu	Ser	Pro
				200					205					210
Arg	Arg	His	His	Asn	His	Gly	Ser	Pro	His	Leu	Lys	Ala	Lys	His
				215					220					225
Thr	Arg	Asp	Asp	Leu	Lys	Ser	Ser	Asn	Arg	His	Gly	His	Lys	Arg
				230					235					240
Lys	Lys	Ser	Arg	Ser	Arg	Ser	Gln	Ser	Lys	Ser	Arg	Asp	His	Ser
				245					250					255
Asp	Ala	Ala	Lys	Lys	His	Arg	His	Glu	Arg	Gly	His	His	Arg	Asp
				260					265					270
Arg	Arg	Glu	Arg	Ser	Arg	Ser	Phe	Glu	Arg	Ser	His	Lys	Ser	Lys



His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg  
 290 295

<210> 214

<211> 730

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 72-73, 85, 91, 127, 226, 268, 454, 484, 513, 566, 663

<223> unknown base

<400> 214

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 gcattgcttt ttacagaaat atattanctt tttagagtaa tttctagttt 150  
 ggattgtaat atgaaattat ttaaaagggc ttcgctcata tataggaaaa 200  
 tcgcatatgg toctagtatt aaattnttat tgcttactga tttttttgag 250  
 ttaagagttg ttatatgnta gaatatgagg atgtgaatat aaataagaga 300  
 agaaaaaaga ataaagtaga ttgagtctcc aattttatgt aagcttcaga 350  
 agaactgggtt tgtttacatg caagcttata gttgaaatat ttttcaggaa 400  
 ttacatgaat gacagtcttc gaaccaatgt gtttgttcga tttcaaccag 450  
 agantatagc atgtgcttgc atctaccttg cagntagagc acttcagatt 500  
 ccgttgccaa ctngtcccca ttggtttctt ctttttggtg ctacagaaga 550  
 ggaaatccag gaaatntgca tagaaacact taggctttat accagaaaaa 600  
 agccaaaacta tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc 650  
 ttacaagaag ccnaattaaa agcaaaggga ttgaatccgg atggaactcc 700  
 agccctttca accctgggtg gattttctcc 730

<210> 215

<211> 1807

<212> DNA

<213> Homo sapiens

<400> 215

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 ccaccctcat gcacaggctg gcgccacact gctccttcgc gcgctggctg 150  
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gcgtgtacct cttcacagag gcctactact acatgctggg accagccaag 450  
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tttttaa 1807

<210> 216

<211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 216

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				20					25					30	
Leu	Leu	Cys	Asn	Gly	Ser	Leu	Phe	Arg	Tyr	Lys	His	Pro	Ser	Glu	
				35					40					45	
Glu	Glu	Leu	Arg	Ala	Leu	Ala	Gly	Lys	Pro	Arg	Pro	Arg	Gly	Arg	
				50					55					60	
Lys	Glu	Arg	Trp	Ala	Asn	Gly	Leu	Ser	Glu	Glu	Lys	Pro	Leu	Ser	
				65					70					75	
Val	Pro	Arg	Asp	Ala	Pro	Phe	Gln	Leu	Glu	Thr	Cys	Pro	Leu	Thr	
				80					85					90	
Thr	Val	Asp	Ala	Leu	Val	Leu	Arg	Phe	Phe	Leu	Glu	Tyr	Gln	Trp	
				95					100					105	
Phe	Val	Asp	Phe	Ala	Val	Tyr	Ser	Gly	Gly	Val	Tyr	Leu	Phe	Thr	
				110					115					120	
Glu	Ala	Tyr	Tyr	Tyr	Met	Leu	Gly	Pro	Ala	Lys	Glu	Thr	Asn	Ile	
				125					130					135	
Ala	Val	Phe	Trp	Cys	Leu	Leu	Thr	Val	Thr	Phe	Ser	Ile	Lys	Met	
				140					145					150	
Phe	Leu	Thr	Val	Thr	Arg	Leu	Tyr	Phe	Ser	Ala	Glu	Glu	Gly	Gly	
				155					160					165	
Glu	Arg	Ser	Val	Cys	Leu	Thr	Phe	Ala	Phe	Leu	Phe	Leu	Leu	Leu	
				170					175					180	
Ala	Met	Leu	Val	Gln	Val	Val	Arg	Glu	Glu	Thr	Leu	Glu	Leu	Gly	
				185					190					195	
Leu	Glu	Pro	Gly	Leu	Ala	Ser	Met	Thr	Gln	Asn	Leu	Glu	Pro	Leu	
				200					205					210	
Leu	Lys	Lys	Gln	Gly	Trp	Asp	Trp	Ala	Leu	Pro	Val	Ala	Lys	Leu	
				215					220					225	
Ala	Ile	Arg	Val	Gly	Leu	Ala	Val	Val	Gly	Ser	Val	Leu	Gly	Ala	
				230					235					240	
Phe	Leu	Thr	Phe	Pro	Gly	Leu	Arg	Leu	Ala	Gln	Thr	His	Arg	Asp	
				245					250					255	
Ala	Leu	Thr	Met	Ser	Glu	Asp	Arg	Pro	Met	Leu	Gln	Phe	Leu	Leu	
				260					265					270	
His	Thr	Ser	Phe	Leu	Ser	Pro	Leu	Phe	Ile	Leu	Trp	Leu	Trp	Thr	
				275					280					285	
Lys	Pro	Ile	Ala	Arg	Asp	Phe	Leu	His	Gln	Pro	Pro	Phe	Gly	Glu	

290	295	300
Thr Arg Phe Ser Leu Leu Ser Asp Ser	Ala Phe Asp Ser Gly Arg	
305	310	315
Leu Trp Leu Leu Val Val Leu Cys Leu	Leu Arg Leu Ala Val Thr	
320	325	330
Arg Pro His Leu Gln Ala Tyr Leu Cys	Leu Ala Lys Ala Arg Val	
335	340	345
Glu Gln Leu Arg Arg Glu Ala Gly Arg	Ile Glu Ala Arg Glu Ile	
350	355	360
Gln Gln Arg Val Val Arg Val Tyr Cys	Tyr Val Thr Val Val Ser	
365	370	375
Leu Gln Tyr Leu Thr Pro Leu Ile Leu	Thr Leu Asn Cys Thr Leu	
380	385	390
Leu Leu Lys Thr Leu Gly Gly Tyr Ser	Trp Gly Leu Gly Pro Ala	
395	400	405
Pro Leu Leu Ser Pro Asp Pro Ser Ser	Ala Ser Ala Ala Pro Ile	
410	415	420
Gly Ser Gly Glu Asp Glu Val Gln Gln	Thr Ala Ala Arg Ile Ala	
425	430	435
Gly Ala Leu Gly Gly Leu Leu Thr Pro	Leu Phe Leu Arg Gly Val	
440	445	450
Leu Ala Tyr Leu Ile Trp Trp Thr Ala	Ala Cys Gln Leu Leu Ala	
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Ser Leu Phe Gly Leu Tyr Phe His Gln	His Leu Ala Gly Ser	
470	475	

<210> 217  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 5, 146  
 <223> unknown base

<400> 217  
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 ggaggagctt cgggccctgg cggggaagcc gaggcccaga ggcaggaaag 200  
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 gatgccccgt tccagctgga gacctgcccc ctcacgaccg tggatgccct 300  
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actcgggcg cgtgtacctc ttcacagagg cctactacta catgctggga 400  
ccagccaagg agactaacat tgctgtgttc tggcgcctgc tcacagtgc 450  
cttctccatc aagatgttcc tgacagtgc acggctgtac ttcagcgccg 500  
aggagggggg tgagcgctct gtctgcctca cctttgcctt cctcttctg 550  
ctgctggcca tgctggtgca agcg 574

<210> 218  
<211> 2571  
<212> DNA  
<213> Homo sapiens

<400> 218  
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ttgtgatcta ctgattgtgg gggcatggca aggtttgctt aaaggagctt 150  
ggctgggttg ggcccttgta gctgacagaa ggtggccagg gagaatgcag 200  
cacactgctc ggagaatgaa ggcgcttctg ttgctggtct tgccttggct 250  
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ctgaagtctg ccaagggtac attatggcca tttttaattt acagctaaaa 2500  
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<210> 219

<211> 632

<212> PRT

<213> Homo sapiens

<400> 219

Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala

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Leu Cys Lys Gly	Ala Ser His Tyr Gly	Leu Thr Lys Asp Arg	Lys
	35	40	45
Arg Arg Ser Gln	Asp Gly Cys Pro Asp	Gly Cys Ala Ser Leu	Thr
	50	55	60
Ala Thr Ala Pro	Ser Pro Glu Val Ser	Ala Ala Ala Thr Ile	Ser
	65	70	75
Leu Met Thr Asp	Glu Pro Gly Leu Asp	Asn Pro Ala Tyr Val	Ser
	80	85	90
Ser Ala Glu Asp	Gly Gln Pro Ala Ile	Ser Pro Val Asp Ser	Gly
	95	100	105
Arg Ser Asn Arg	Thr Arg Ala Arg Pro	Phe Glu Arg Ser Thr	Ile
	110	115	120
Arg Ser Arg Ser	Phe Lys Lys Ile Asn	Arg Ala Leu Ser Val	Leu
	125	130	135
Arg Arg Thr Lys	Ser Gly Ser Ala Val	Ala Asn His Ala Asp	Gln
	140	145	150
Gly Arg Glu Asn	Ser Glu Asn Thr Thr	Ala Pro Glu Val Phe	Pro
	155	160	165
Arg Leu Tyr His	Leu Ile Pro Asp Gly	Glu Ile Thr Ser Ile	Lys
	170	175	180
Ile Asn Arg Val	Asp Pro Ser Glu Ser	Leu Ser Ile Arg Leu	Val
	185	190	195
Gly Gly Ser Glu	Thr Pro Leu Val His	Ile Ile Ile Gln His	Ile
	200	205	210
Tyr Arg Asp Gly	Val Ile Ala Arg Asp	Gly Arg Leu Leu Pro	Gly
	215	220	225
Asp Ile Ile Leu	Lys Val Asn Gly Met	Asp Ile Ser Asn Val	Pro
	230	235	240
His Asn Tyr Ala	Val Arg Leu Leu Arg	Gln Pro Cys Gln Val	Leu
	245	250	255
Trp Leu Thr Val	Met Arg Glu Gln Lys	Phe Arg Ser Arg Asn	Asn
	260	265	270
Gly Gln Ala Pro	Asp Ala Tyr Arg Pro	Arg Asp Asp Ser Phe	His
	275	280	285
Val Ile Leu Asn	Lys Ser Ser Pro Glu	Glu Gln Leu Gly Ile	Lys
	290	295	300
Leu Val Arg Lys	Val Asp Glu Pro Gly	Val Phe Ile Phe Asn	Val
	305	310	315
Leu Asp Gly Gly	Val Ala Tyr Arg His	Gly Gln Leu Glu Glu	Asn





<210> 220  
 <211> 773  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
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 gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200  
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 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
 tccaggggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
 gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400  
 ctctggacaa catgttctcc aacaaatata cctgggtcaa gtacaaccct 450  
 ctggagtctc tgatcaaaga cgtggattgg ttctgtcttg ggtcaccat 500  
 tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550  
 acacacataa tgtcgggtgct ggaggctgtg caaaggctgg gctcctgggc 600  
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<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
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 20 25 30  
 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
 35 40 45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
 50 55 60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
 65 70 75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
 80 85 90

Ile	Pro	Pro	Leu	Asn	Asn	Leu	Gln	Trp	Tyr	Ile	Tyr	Glu	Lys	Gln
				95					100					105
Ala	Leu	Asp	Asn	Met	Phe	Ser	Asn	Lys	Tyr	Thr	Trp	Val	Lys	Tyr
				110					115					120
Asn	Pro	Leu	Glu	Ser	Leu	Ile	Lys	Asp	Val	Asp	Trp	Phe	Leu	Leu
				125					130					135
Gly	Ser	Pro	Ile	Glu	Lys	Leu	Cys	Lys	His	Ile	Pro	Leu	Tyr	Lys
				140					145					150
Gly	Glu	Val	Val	Glu	Asn	Thr	His	Asn	Val	Gly	Ala	Gly	Gly	Cys
				155					160					165
Ala	Lys	Ala	Gly	Leu	Leu	Gly	Ile	Leu	Gly	Ile	Ser	Ile	Cys	Ala
				170					175					180

Asp Ile His Val

<210> 222  
 <211> 992  
 <212> DNA  
 <213> Homo sapiens

<400> 222  
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 ccattgccta caaagtcttg gaagttttcc ccaaaggccg ctgggtgctc 200  
 ataacctgct gtgcacccca gccaccaccg cccatcacct attccctctg 250  
 tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccagcagc 300  
 cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350  
 acctacttct gccggggctc ctccacctca ggtgcccattg tggacagtgc 400  
 caggctacag atgcactggg agctgtgggc caagccagtg tctgagctgc 450  
 gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500  
 atctgccagg cgtcctcggg cagcccacct atcaccaaca gcctgatcgg 550  
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 ccaacttctc cttcctgccc agccagacat cggactggtt ctggtgccag 650  
 gctgcaaaca acgccaatgt ccagcacagc gccctcacag tggtgccccc 700  
 aggtggtgac cagaagatgg aggactggca ggggtcccctg gagagcccca 750  
 tccttgccctt gccgctctac aggagcaccc gccgtctgag tgaagaggag 800  
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 agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900

ggccatcagc gtgcactgtt cgtatttgga gttcatgcaa aatgagtgtg 950

tttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met	Gly	Leu	Pro	Gly	Leu	Phe	Cys	Leu	Ala	Val	Leu	Ala	Ala	Ser
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Ser	Phe	Ser	Lys	Ala	Arg	Glu	Glu	Glu	Ile	Thr	Pro	Val	Val	Ser
				20					25					30
Ile	Ala	Tyr	Lys	Val	Leu	Glu	Val	Phe	Pro	Lys	Gly	Arg	Trp	Val
				35					40					45
Leu	Ile	Thr	Cys	Cys	Ala	Pro	Gln	Pro	Pro	Pro	Pro	Ile	Thr	Tyr
				50					55					60
Ser	Leu	Cys	Gly	Thr	Lys	Asn	Ile	Lys	Val	Ala	Lys	Lys	Val	Val
				65					70					75
Lys	Thr	His	Glu	Pro	Ala	Ser	Phe	Asn	Leu	Asn	Val	Thr	Leu	Lys
				80					85					90
Ser	Ser	Pro	Asp	Leu	Leu	Thr	Tyr	Phe	Cys	Arg	Ala	Ser	Ser	Thr
				95					100					105
Ser	Gly	Ala	His	Val	Asp	Ser	Ala	Arg	Leu	Gln	Met	His	Trp	Glu
				110					115					120
Leu	Trp	Ser	Lys	Pro	Val	Ser	Glu	Leu	Arg	Ala	Asn	Phe	Thr	Leu
				125					130					135
Gln	Asp	Arg	Gly	Ala	Gly	Pro	Arg	Val	Glu	Met	Ile	Cys	Gln	Ala
				140					145					150
Ser	Ser	Gly	Ser	Pro	Pro	Ile	Thr	Asn	Ser	Leu	Ile	Gly	Lys	Asp
				155					160					165
Gly	Gln	Val	His	Leu	Gln	Gln	Arg	Pro	Cys	His	Arg	Gln	Pro	Ala
				170					175					180
Asn	Phe	Ser	Phe	Leu	Pro	Ser	Gln	Thr	Ser	Asp	Trp	Phe	Trp	Cys
				185					190					195
Gln	Ala	Ala	Asn	Asn	Ala	Asn	Val	Gln	His	Ser	Ala	Leu	Thr	Val
				200					205					210
Val	Pro	Pro	Gly	Gly	Asp	Gln	Lys	Met	Glu	Asp	Trp	Gln	Gly	Pro
				215					220					225
Leu	Glu	Ser	Pro	Ile	Leu	Ala	Leu	Pro	Leu	Tyr	Arg	Ser	Thr	Arg
				230					235					240
Arg	Leu	Ser	Glu	Glu	Glu	Phe	Gly	Gly	Phe	Arg	Ile	Gly	Asn	Gly
				245					250					255
Glu	Val	Arg	Gly	Arg	Lys	Ala	Ala	Ala	Met					
				260					265					

<210> 224  
 <211> 1297  
 <212> DNA  
 <213> Homo sapiens

<400> 224  
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 ggtggtgtgc ggttcaaggc caggtggatg aaaagacttt tcttcactat 200  
 gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaaact 250  
 aaatgtcaca acggcctgga aagcacagaa ccagtgactg agagagggtg 300  
 tggacatact tacagagcaa ctgcgtgaca ttcagctgga gaattacaca 350  
 cccaaggaac ccctcaccct gcaggcaagg atgtcttgtg agcagaaaagc 400  
 tgaaggacac agcagtggat cttggcagtt cagtttcgat gggcagatct 450  
 tcctcctctt tgactcagag aagagaatgt ggacaacggg tcatcctgga 500  
 gccagaaaaga tgaaagaaaa gtgggagaat gacaagggtg tggccatgtc 550  
 cttccattac ttctcaatgg gagactgtat aggatggctt gaggacttct 600  
 tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
 atgtcctcag gcacaacca aotcagggcc acagccacca ccctcatcct 700  
 ttgctgcctc ctcatcatcc tcccctgctt catcctccct ggcatctgag 750  
 gagagtcctt tagagtgaca ggttaaagct gatacaaaa ggctcctgtg 800  
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 ctacgggtgta tgtccagtgg cctccagcag atcatgatga catcatggac 900  
 ccaatagctc attcactgcc ttgattcctt ttgccaacaa ttttaccagc 950  
 agttatacct aacatattat gcaattttct cttggtgcta cctgatggaa 1000  
 ttctctgcact taaagtcttg gctgactaaa caagatatat cattttcttt 1050  
 cttctctttt tgtttgaaa atcaagtact tctttgaatg atgatctctt 1100  
 tcttgcaaat gatattgtca gtaaaataat cacgttagac ttcagacctc 1150  
 tggggattct ttccgtgtcc tgaaagagaa tttttaaat atttaataag 1200  
 aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
 tgatatttta ataaagagtt ctatttccca aaaaaaaaaa aaaaaaa 1297

<210> 225  
 <211> 246  
 <212> PRT  
 <213> Homo sapiens



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gcagaggatt ccaccttcaa aatcatgaac tctggctggt gatcaaaaga 250  
gaatttggat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
agcagaagac tcaacctggc ctcccataaa caggacagat tattcaggtg 350  
atggcaaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400  
attccaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
ctgggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
ttacctttcc tctctccatt caagcattca aagtatatat tcaatgaatt 600  
aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
accaatgaga gaaaaaaatg catttcctgt atcatccttt tcaataaaact 700  
gtatttcattt tgaaaaaaa aaaaaaaaaa aaaaa 735

<210> 227  
<211> 115  
<212> PRT  
<213> Homo sapiens

<400> 227  
Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
1 5 10 15  
Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
20 25 30  
Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu  
35 40 45  
Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
50 55 60  
Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
65 70 75  
Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
80 85 90  
Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
95 100 105  
Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
110 115

<210> 228  
<211> 2185  
<212> DNA  
<213> Homo sapiens

<400> 228  
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cacaccatga agctcttgtg gcaggtaact gtgcaccacc acacctggaa 100



aaacttcgta agcggcacca gcagcggagt acagtcacag ccgcccggac 1750  
 tgttgagata atccaggtgg acgaagacat cccagcagca acatccgcag 1800  
 cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgctg 1850  
 cccacaattc atgaccatat taactacaac acctacaaac cagcacatgg 1900  
 ggcccactgg acagaaaaca gcctggggaa ctctctgcac cccacagtca 1950  
 ccactatctc tgaaccttat ataattcaga cccataccaa ggacaaggta 2000  
 caggaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
 ttcttgtata tgcttatata ttaagtctat gggctgggta aaaaaaacag 2150  
 attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229  
 <211> 653  
 <212> PRT  
 <213> Homo sapiens

<400> 229  
 Met Lys Leu Leu Trp Gln Val Thr Val His His His Thr Trp Asn  
 1 5 10 15  
 Ala Ile Leu Leu Pro Phe Val Tyr Leu Thr Ala Gln Val Trp Ile  
 20 25 30  
 Leu Cys Ala Ala Ile Ala Ala Ala Ala Ser Ala Gly Pro Gln Asn  
 35 40 45  
 Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val Val  
 50 55 60  
 Cys Thr Arg Arg Gly Leu Ser Glu Val Pro Gln Gly Ile Pro Ser  
 65 70 75  
 Asn Thr Arg Tyr Leu Asn Leu Met Glu Asn Asn Ile Gln Met Ile  
 80 85 90  
 Gln Ala Asp Thr Phe Arg His Leu His His Leu Glu Val Leu Gln  
 95 100 105  
 Leu Gly Arg Asn Ser Ile Arg Gln Ile Glu Val Gly Ala Phe Asn  
 110 115 120  
 Gly Leu Ala Ser Leu Asn Thr Leu Glu Leu Phe Asp Asn Trp Leu  
 125 130 135  
 Thr Val Ile Pro Ser Gly Ala Phe Glu Tyr Leu Ser Lys Leu Arg  
 140 145 150  
 Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser Tyr  
 155 160 165  
 Ala Phe Asn Arg Val Pro Ser Leu Met Arg Leu Asp Leu Gly Glu  
 170 175 180  
 Leu Lys Lys Leu Glu Tyr Ile Ser Glu Gly Ala Phe Glu Gly Leu





500	505	510
Thr Thr Asp Lys Met Gln Thr Ser Leu	Asp Glu Val Met Lys Thr	
515	520	525
Thr Lys Ile Ile Ile Gly Cys Phe Val	Ala Val Thr Leu Leu Ala	
530	535	540
Ala Ala Met Leu Ile Val Phe Tyr Lys	Leu Arg Lys Arg His Gln	
545	550	555
Gln Arg Ser Thr Val Thr Ala Ala Arg	Thr Val Glu Ile Ile Gln	
560	565	570
Val Asp Glu Asp Ile Pro Ala Ala Thr	Ser Ala Ala Ala Thr Ala	
575	580	585
Ala Pro Ser Gly Val Ser Gly Glu Gly	Ala Val Val Leu Pro Thr	
590	595	600
Ile His Asp His Ile Asn Tyr Asn Thr	Tyr Lys Pro Ala His Gly	
605	610	615
Ala His Trp Thr Glu Asn Ser Leu Gly	Asn Ser Leu His Pro Thr	
620	625	630
Val Thr Thr Ile Ser Glu Pro Tyr Ile	Ile Gln Thr His Thr Lys	
635	640	645
Asp Lys Val Gln Glu Thr Gln Ile		
650		

<210> 230  
 <211> 2846  
 <212> DNA  
 <213> Homo sapiens

<400> 230  
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 tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150  
 tcgggagtgc tgtgaatatg atcagattga gtgcgtctgc cccggaaaga 200  
 gggaagtcgt gggttatacc atcccttgct gcaggaatga ggagaatgag 250  
 tgtgactcct gcctgatcca ccaggttgt accatctttg aaaactgcaa 300  
 gagctgccga aatggctcat ggggggttac cttggatgac ttctatgtga 350  
 aggggttcta ctgtgcagag tgccgagcag gctggtacgg aggagactgc 400  
 atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttgga 450  
 aagctatccc ctaaagtctc actgtgaatg gaccattcat gctaaacctg 500  
 ggtttgtcat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550  
 atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600  
 ccagatcatc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650

gcataggatc ctcaactccac gtctctcttcc actccgatgg ctccaagaat 700  
 tttgacgggt tccatgccat ttatgaggag atcacagcat gctcctcatc 750  
 cccttggttc catgacggca cgtgctgctc tgacaaggct ggatcttaca 800  
 agtgtgcctg cttggcaggc tatactgggc agcgctgtga aaatctcctt 850  
 gaagaaagaa actgctcaga ccctgggggc ccagtcaatg ggtaccagaa 900  
 aataacaggg ggccctgggc ttatcaacgg acgcatgct aaaattggca 950  
 ccgtggtgtc tttcttttgt aacaactcct atgttcttag tggcaatgag 1000  
 aaaagaactt gccagcagaa tggagagtgg tcagggaac agcccatctg 1050  
 cataaaaagcc tgccgagaac caaagatttc agacctggtg agaaggagag 1100  
 ttcttccgat gcaggttcag tcaagggaga caccattaca ccagctatac 1150  
 tcagcggcct tcagcaagca gaaactgcag agtgccccta ccaagaagcc 1200  
 agcccttccc tttggagatc tgcccatggg ataccaacat ctgcataccc 1250  
 agctccagta tgagtgcac tcaccttct accgccgctt gggcagcagc 1300  
 aggaggacat gtctgaggac tgggaagtgg agtgggcggg caccatcctg 1350  
 catccctatc tgccggaaaa ttgagaacat cactgctcca aagacccaag 1400  
 ggttgcgctg gccgtggcag gcagccatct acaggaggac cagcggggtg 1450  
 catgacggca gcctacacaa gggagcgtgg ttcctagtct gcagcgggtg 1500  
 cctggtgaat gagcgcactg tgggtggtgg tgccactgt gttactgacc 1550  
 tggggaaggt caccatgatc aagacagcag acctgaaagt tgttttgggg 1600  
 aaattctacc gggatgatga ccgggatgag aagaccatcc agagcctaca 1650  
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 ctgacatcgc catcctgaag ctctagaca aggcccgat cagcaccgca 1750  
 gtccagccca tctgcctcgc tgccagtcgg gatctcagca cttccttcca 1800  
 ggagtcccac atcactgtgg ctggctggaa tgtcctggca gacgtgagga 1850  
 gccctggctt caagaacgac aactgcgct ctggggtggt cagtgtggtg 1900  
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 ctatgataaa acatgcagcc acaggctctc cactgccttc accaagggtg 2150  
 tgccttttaa agactggatt gaaagaaata tgaaatgaac catgctcatg 2200  
 cactccttga gaagtgttcc tgtatatccg tctgtacgtg tgtcattgag 2250

tgaagcagtg tgggcctgaa gtgtgatttg gcctgtgaac ttggctgtgc 2300  
cagggcttct gacttcaggg acaaaactca gtgaagggtg agtagacctc 2350  
cattgctggg aggetgatgc cgcgtccact actaggacag ccaattggaa 2400  
gatgccaggg cttgcaagaa gtaagtttct tcaaagaaga ccatatacaa 2450  
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gaatgccatc agcttgacca gggaagatct gggcttcatg agggccccttt 2550  
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gagctgggat gtggtgcatg cctttgtgta catggccaca gtacagtctg 2650  
gtccttttcc ttccccatct cttgtacaca ttttaataaa ataagggttg 2700  
gcttctgaac tacaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2800  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2846

<210> 231  
<211> 720  
<212> PRT  
<213> Homo sapiens

<400> 231  
Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln  
1 5 10 15  
Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
20 25 30  
Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
35 40 45  
Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
50 55 60  
Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
65 70 75  
Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
80 85 90  
Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
95 100 105  
Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
110 115 120  
Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
125 130 135  
Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
140 145 150  
Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
155 160 165



His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn
				485					490					495
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly
				500					505					510
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly
				515					520					525
Lys	Phe	Tyr	Arg	Asp	Asp	Asp	Arg	Asp	Glu	Lys	Thr	Ile	Gln	Ser
				530					535					540
Leu	Gln	Ile	Ser	Ala	Ile	Ile	Leu	His	Pro	Asn	Tyr	Asp	Pro	Ile
				545					550					555
Leu	Leu	Asp	Ala	Asp	Ile	Ala	Ile	Leu	Lys	Leu	Leu	Asp	Lys	Ala
				560					565					570
Arg	Ile	Ser	Thr	Arg	Val	Gln	Pro	Ile	Cys	Leu	Ala	Ala	Ser	Arg
				575					580					585
Asp	Leu	Ser	Thr	Ser	Phe	Gln	Glu	Ser	His	Ile	Thr	Val	Ala	Gly
				590					595					600
Trp	Asn	Val	Leu	Ala	Asp	Val	Arg	Ser	Pro	Gly	Phe	Lys	Asn	Asp
				605					610					615
Thr	Leu	Arg	Ser	Gly	Val	Val	Ser	Val	Val	Asp	Ser	Leu	Leu	Cys
				620					625					630
Glu	Glu	Gln	His	Glu	Asp	His	Gly	Ile	Pro	Val	Ser	Val	Thr	Asp
				635					640					645
Asn	Met	Phe	Cys	Ala	Ser	Trp	Glu	Pro	Thr	Ala	Pro	Ser	Asp	Ile
				650					655					660
Cys	Thr	Ala	Glu	Thr	Gly	Gly	Ile	Ala	Ala	Val	Ser	Phe	Pro	Gly
				665					670					675
Arg	Ala	Ser	Pro	Glu	Pro	Arg	Trp	His	Leu	Met	Gly	Leu	Val	Ser
				680					685					690
Trp	Ser	Tyr	Asp	Lys	Thr	Cys	Ser	His	Arg	Leu	Ser	Thr	Ala	Phe
				695					700					705
Thr	Lys	Val	Leu	Pro	Phe	Lys	Asp	Trp	Ile	Glu	Arg	Asn	Met	Lys
				710					715					720

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

aggttcgtga tggagacaac cgcg 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcggcca gtcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgccctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150  
caaattccga ttactgttgc tgttgacttt gtgcctgaca gtgggttgggt 200  
gggccaccag taactacttc gtgggtgcca ttcaagagat tcctaaagca 250  
aaggagtcca tggctaattt ccataagacc ctcatcttgg ggaagggaaa 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
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atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700  
gtggacctgg tacccgagaa tgactttaac ctttacaagt gtgaggagca 750  
tcccagcat ctggtgggtg gcaggaacag cactgggtac aggttacgtt 800  
acagtggata ttttgggggt gttactgccc taagcagaga gcagtttttc 850  
aagggtgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900  
tgacctcaga ctcagggttg agctccaaag aatgaaaatt tcccgcccc 950  
tgccctgaagt gggtaaaatat acaatggtct tccacactag agacaaaggc 1000

aatgaggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
 ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100  
 aacacaatcc tttatatatc aacatcacag tggatttctg gtttggtgca 1150  
 tgaccctgga tcttttgggtg atgtttggaa gaactgattc tttgtttgca 1200  
 ataatttttg cctagagact tcaaatagta gcacacatta agaacctgtt 1250  
 acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
 ctcttggtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350  
 tcattttgat catgaggggtt aaatattgta atatggatac ttgaaggact 1400  
 ttatataaaa ggatgactca aaggataaaa tgaacgctat ttgaggactc 1450  
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 ggccacagga aataagactg ctgaatgtct gagagaacca gagttgttct 1550  
 cgtccaaggt agaaaggtag gaagatacaa tactgttatt catttatcct 1600  
 gtacaatcat ctgtgaagtg gtggtgtcag gtgagaaggc gtccacaaaa 1650  
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 cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
 tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
 acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
 gtgaaaaagc aaaa 1964

<210> 236  
 <211> 344  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-27  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 4-7, 220-223, 335-338  
 <223> N-glycosylation sites

<220>  
 <221> Xylose isomerase proteins  
 <222> 191-201  
 <223> Xylose isomerase proteins

<400> 236  
 Met Gly Phe Asn Leu Thr Phe His Leu Ser Tyr Lys Phe Arg Leu  
 1 5 10 15



Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr	
				20					25					30	
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys	
				35					40					45	
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly	
				50					55					60	
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp	
				65					70					75	
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu	
				80					85					90	
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn	
				95					100					105	
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala	
				110					115					120	
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys	
				125					130					135	
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg	
				140					145					150	
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly	
				155					160					165	
Lys	Lys	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu	
				170					175					180	
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val	
				185					190					195	
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu	
				200					205					210	
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg	
				215					220					225	
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg	
				230					235					240	
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly	
				245					250					255	
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln	
				260					265					270	
Arg	Met	Lys	Ile	Ser	Arg	Pro	Leu	Pro	Glu	Val	Gly	Lys	Tyr	Thr	
				275					280					285	
Met	Val	Phe	His	Thr	Arg	Asp	Lys	Gly	Asn	Glu	Val	Asn	Ala	Glu	
				290					295					300	
Arg	Met	Lys	Leu	Leu	His	Gln	Val	Ser	Arg	Val	Trp	Arg	Thr	Asp	
				305					310					315	
Gly	Leu	Ser	Ser	Cys	Ser	Tyr	Lys	Leu	Val	Ser	Val	Glu	His	Asn	
				320					325					330	

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
 335 340

<210> 237  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 237  
 ccttacctca gaggccagag caagc 25

<210> 238  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 238  
 gagcttcacgc cgttctgcgt tcacc 25

<210> 239  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 239  
 caggaatgta aagctttaca gagggtcgcc atcctcgttc cccacc 46

<210> 240  
 <211> 2567  
 <212> DNA  
 <213> Homo sapiens

<400> 240  
 cgtgggccgg ggtcgcgcag cgggctgtgg gcgcgcccgg aggagcgacc 50  
 gccgcagttc tcgagctcca gctgcattcc ctccgcgtcc gcccacgct 100  
 tctcccgtc cgggccccgc aatggcccag gcagtgtggt cgcgcctcgg 150  
 ccgcacctc tggcttgccct gcctcctgcc ctgggccccg gcaggggtgg 200  
 ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
 ggagcgggtg tgaccatctc ggccagcctg gtggccaagg acaacggcag 300  
 cctggccctg cccgctgacg cccacctcta ccgcttcac tgcatccaca 350  
 ccccgctggt gcttactggc aagatggaga aggtctcag ctccaccatc 400  
 cgtgtggtcg gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
 tgccgctgac tgctggatgt gccagcctgt ggccaggggc tttgtggtcc 500  
 tccccatcac agagttcctc gtgggggacc ttgttgtcac ccagaacact 550

tccctaccct ggcccagctc ctatctcact aagaccgtcc tgaaagtctc 600  
 cttcctcctc caccgaccca gcaacttcct caagaccgcc ttgtttctct 650  
 acagctggga cttcggggac gggaccaga tggtgactga agactccgtg 700  
 gtctattata actattccat catcgggacc ttcaccgtga agctcaaagt 750  
 ggtggcggag tgggaagagg tggagccgga tgccacgagg gctgtgaagc 800  
 agaagaccgg ggacttctcc gcctcgctga agctgcagga aacccttcga 850  
 ggcattcaag tgttggggcc caccctaatt cagaccttc aaaagatgac 900  
 cgtgaccttg aacttcctgg ggagccctcc tctgactgtg tgctggcgctc 950  
 tcaagcctga gtgcctcccg ctggaggaag gggagtgcc ccctgtgtcc 1000  
 gtggccagca cagcgtacaa cctgaccac accttcagg accctgggga 1050  
 ctactgcttc agcatccggg cggagaatat catcagcaag acacatcagt 1100  
 accacaagat ccaggtgtgg ccctccagaa tccagccggc tgtctttgct 1150  
 ttcccatgtg ctacacttat cactgtgatg ttggccttca tcatgtacat 1200  
 gacctgcgg aatgccactc agcaaaagga catggtggag aaccgggagc 1250  
 caccctctgg ggtcaggtgc tgetgccaga tgtgctgtgg gcctttcttg 1300  
 ctggagactc catctgagta cctggaaatt gttcgtgaga accacgggct 1350  
 gctccgccc ctctataagt ctgtcaaac ttacaccgtg tgagcactcc 1400  
 ccctccccc cccatctcag tgttaactga ctgctgactt ggagtttcca 1450  
 gcagggtggt gtgcaccact gaccaggagg ggttcatttg cgtggggctg 1500  
 ttggcctgga tcatccatcc atctgtacag ttcagccact gccacaagcc 1550  
 cctccctctc tgtcaccctc gaccccagcc attcaccat ctgtacagtc 1600  
 cagccactga cataagcccc actcggttac ccccccttg accccctacc 1650  
 tttgaagagg cttcgtgcag gactttgatg cttgggggtg tccgtgttga 1700  
 ctctaggtg ggcttgctg cccactgccc attcctctca tattggcaca 1750  
 tctgctgtcc attgggggtt ctgagtttcc tccccagac agccctacct 1800  
 gtgccagaga gctagaaaga aggtcataaa gggttaaaaa tccataacta 1850  
 aaggttgtac acatagatgg gcacactcac agagagaagt gtgcatgtac 1900  
 acacaccaca cacacacaca cacacacaca cacagaaata taaacacatg 1950  
 cgtcacatgg gcatttcaga tgatcagctc tgtatctggt taagtcgggt 2000  
 gctgggatgc accctgcact agagctgaaa ggaaatttga cctccaagca 2050  
 gccctgacag gttctgggccc cgggccctcc ctttgtgctt tgtctctgca 2100  
 gttcttgccg cctttataag gccatcctag tccctgctgg ctggcagggg 2150



Tyr	Asn	Tyr	Ser	Ile	Ile	Gly	Thr	Phe	Thr	Val	Lys	Leu	Lys	Val	
				200					205					210	
Val	Ala	Glu	Trp	Glu	Glu	Val	Glu	Pro	Asp	Ala	Thr	Arg	Ala	Val	
				215					220					225	
Lys	Gln	Lys	Thr	Gly	Asp	Phe	Ser	Ala	Ser	Leu	Lys	Leu	Gln	Glu	
				230					235					240	
Thr	Leu	Arg	Gly	Ile	Gln	Val	Leu	Gly	Pro	Thr	Leu	Ile	Gln	Thr	
				245					250					255	
Phe	Gln	Lys	Met	Thr	Val	Thr	Leu	Asn	Phe	Leu	Gly	Ser	Pro	Pro	
				260					265					270	
Leu	Thr	Val	Cys	Trp	Arg	Leu	Lys	Pro	Glu	Cys	Leu	Pro	Leu	Glu	
				275					280					285	
Glu	Gly	Glu	Cys	His	Pro	Val	Ser	Val	Ala	Ser	Thr	Ala	Tyr	Asn	
				290					295					300	
Leu	Thr	His	Thr	Phe	Arg	Asp	Pro	Gly	Asp	Tyr	Cys	Phe	Ser	Ile	
				305					310					315	
Arg	Ala	Glu	Asn	Ile	Ile	Ser	Lys	Thr	His	Gln	Tyr	His	Lys	Ile	
				320					325					330	
Gln	Val	Trp	Pro	Ser	Arg	Ile	Gln	Pro	Ala	Val	Phe	Ala	Phe	Pro	
				335					340					345	
Cys	Ala	Thr	Leu	Ile	Thr	Val	Met	Leu	Ala	Phe	Ile	Met	Tyr	Met	
				350					355					360	
Thr	Leu	Arg	Asn	Ala	Thr	Gln	Gln	Lys	Asp	Met	Val	Glu	Asn	Pro	
				365					370					375	
Glu	Pro	Pro	Ser	Gly	Val	Arg	Cys	Cys	Cys	Gln	Met	Cys	Cys	Gly	
				380					385					390	
Pro	Phe	Leu	Leu	Glu	Thr	Pro	Ser	Glu	Tyr	Leu	Glu	Ile	Val	Arg	
				395					400					405	
Glu	Asn	His	Gly	Leu	Leu	Pro	Pro	Leu	Tyr	Lys	Ser	Val	Lys	Thr	
				410					415					420	

Tyr Thr Val

- <210> 242
- <211> 26
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Synthetic oligonucleotide probe
- <400> 242
- catttcctta ccctggaccc agctcc 26
- <210> 243
- <211> 25
- <212> DNA
- <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgaccgc agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50  
gctcccagat ctgggccgct tgccctcctgc tctcctcct cctcgccagc 100  
ctgaccagtg gctctgtttt ccacacaacag acgggacaac ttgcagagct 150  
gcaaccccag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
agaggcgaag gaggcgagac acccaacttcc ccactctgat tttctgctgc 250  
ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg ccccgctccc ctcccttctt tatttattcc tgctgcccc 350  
gaacataggt cttggaataa aatggctggt tcttttgttt tccccaaaaa 400  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
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Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr  
80

<210> 247  
<211> 2359  
<212> DNA  
<213> Homo sapiens

<400> 247  
ctgtcaggaa ggaccatctg aaggctgcaa tttgttctta gggaggcagg 50  
tgctggcctg gcctggatct tccaccatgt tcctgttgct gccttttgat 100  
agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150  
ccttctcggt ttcacatag tgccagccat ttttgagtc tcctttggta 200  
tccgcaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250  
ttgagaatgg agcgaggagc caaggagaag aaccaccagc tttacaagcc 300  
ctacaccaac ggaatcattg caaaggatcc cacttcacta gaagaagaga 350  
tcaaagagat tcgtcgaagt ggtagtagta aggctctgga caaactcca 400  
gagttcgagc tctctgacat tttctacttt tgccggaag gaatggagac 450  
cattatggat gatgaggatg caaagagatt ctcagcagaa gaactggagt 500  
cctggaacct gctgagcaga accaattata acttcagta catcagcctt 550  
cggtcacgg tcctgtgggg gttaggagtg ctgattcggg actgctttct 600  
gctgccgctc aggatagcac tggctttcac agggattagc cttctggtgg 650  
tgggcacaac tgtggtggga tacttgccaa atgggaggtt taaggaattc 700  
atgagtaaac atgttcactt aatgtgttac cggatctgcg tgcgagcgt 750  
gacagccatc atcacctacc atgacagga aaacagacca agaaatggtg 800  
gcatctgtgt ggccaatcat acctaccga tcgatgtgat catcttgcc 850  
agcgatggct attatgccat ggtgggtcaa gtgcacgggg gactcatggg 900  
tgtgattcag agagccatgg tgaaggcctg cccacacgtc tggtttgagc 950  
gctcggaagt gaaggatgc cactgtgtgg ctaagagact gactgaacat 1000  
gtgcaagata aaagcaagct gcctatctc atcttcccag aaggaacctg 1050  
catcaataat acatcgggtg tgatgttcaa aaagggaagt tttgaaattg 1100  
gagccacagt ttaccctgtt gctatcaagt atgaccctca atttggcgat 1150  
gccttctgga acagcagcaa atacgggatg gtgacgtacc tgctgcgaat 1200  
gatgaccagc tgggccattg tctgcagcgt gtggtacctg cctcccatga 1250  
ctagagaggc agatgaagat gctgtccagt ttgcgaatag ggtgaaatct 1300  
gccattgcca ggcaggagg acttgtggac ctgctgtggg atgggggcct 1350

gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400  
acagcaagat gatcgtgggg aaccacaagg acaggagccg ctcctgagcc 1450  
tgcctccagc tgggtggggc caccgtgagg ggtgccaacg ggctcagagc 1500  
tggagttgcc gccgcgcgcc cactgtctgt gtcctttcca gactccaggg 1550  
ctccccgggc tgcctctggat cccaggactc cggttttcgc cgagccgcag 1600  
cgggatccct gtgcaccccg cgcagcctac ccttggtggt ctaaaccgat 1650  
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gcgggctgag tgggtgggga gatgtggcca tggctctgtg ctagagatgg 1800  
cggtaacaaga gtctgttatg caagcccgtg tgccagggat gtgctggggg 1850  
cggccaccgc ctctccagga aaggcacagc tgaggcactg tggctggctt 1900  
cggcctcaac atcgccccca gccttgagagc tctgcagaca tgataggaag 1950  
gaaactgtca tctgcagggg ctttcagcaa aatgaagggt tagattttta 2000  
tgctgctgct gatgggggta ctaaaggag ggaagaggc cagggtggcc 2050  
gctgactggg ccatggggag aacgtgtgtt cgtactccag gctaaccctg 2100  
aactccccat gtgatgcgcg ctttggtgaa tgtgtgtctc ggtttcccca 2150  
tctgtaatat gagtcggggg gaatggtggt gattcctacc tcacagggct 2200  
gttggtggga ttaaagtgtc gcgggtgagt gaaggacaca tcacgttcag 2250  
tgtttcaagt acaggccac aaaacggggc acggcaggcc tgagctcaga 2300  
gctgctgcac tgggctttgg atttggtctt gtgagtaaata aaaactggct 2350  
ggtgaatga 2359

<210> 248  
<211> 456  
<212> PRT  
<213> Homo sapiens

<400> 248  
Met Phe Leu Leu Leu Pro Phe Asp Ser Leu Ile Val Asn Leu Leu  
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Gly Ile Ser Leu Thr Val Leu Phe Thr Leu Leu Leu Val Phe Ile  
20 25 30  
Ile Val Pro Ala Ile Phe Gly Val Ser Phe Gly Ile Arg Lys Leu  
35 40 45  
Tyr Met Lys Ser Leu Leu Lys Ile Phe Ala Trp Ala Thr Leu Arg  
50 55 60  
Met Glu Arg Gly Ala Lys Glu Lys Asn His Gln Leu Tyr Lys Pro  
65 70 75



Tyr	Thr	Asn	Gly	Ile	Ile	Ala	Lys	Asp	Pro	Thr	Ser	Leu	Glu	Glu		80	85	90
Glu	Ile	Lys	Glu	Ile	Arg	Arg	Ser	Gly	Ser	Ser	Lys	Ala	Leu	Asp		95	100	105
Asn	Thr	Pro	Glu	Phe	Glu	Leu	Ser	Asp	Ile	Phe	Tyr	Phe	Cys	Arg		110	115	120
Lys	Gly	Met	Glu	Thr	Ile	Met	Asp	Asp	Glu	Val	Thr	Lys	Arg	Phe		125	130	135
Ser	Ala	Glu	Glu	Leu	Glu	Ser	Trp	Asn	Leu	Leu	Ser	Arg	Thr	Asn		140	145	150
Tyr	Asn	Phe	Gln	Tyr	Ile	Ser	Leu	Arg	Leu	Thr	Val	Leu	Trp	Gly		155	160	165
Leu	Gly	Val	Leu	Ile	Arg	Tyr	Cys	Phe	Leu	Leu	Pro	Leu	Arg	Ile		170	175	180
Ala	Leu	Ala	Phe	Thr	Gly	Ile	Ser	Leu	Leu	Val	Val	Gly	Thr	Thr		185	190	195
Val	Val	Gly	Tyr	Leu	Pro	Asn	Gly	Arg	Phe	Lys	Glu	Phe	Met	Ser		200	205	210
Lys	His	Val	His	Leu	Met	Cys	Tyr	Arg	Ile	Cys	Val	Arg	Ala	Leu		215	220	225
Thr	Ala	Ile	Ile	Thr	Tyr	His	Asp	Arg	Glu	Asn	Arg	Pro	Arg	Asn		230	235	240
Gly	Gly	Ile	Cys	Val	Ala	Asn	His	Thr	Ser	Pro	Ile	Asp	Val	Ile		245	250	255
Ile	Leu	Ala	Ser	Asp	Gly	Tyr	Tyr	Ala	Met	Val	Gly	Gln	Val	His		260	265	270
Gly	Gly	Leu	Met	Gly	Val	Ile	Gln	Arg	Ala	Met	Val	Lys	Ala	Cys		275	280	285
Pro	His	Val	Trp	Phe	Glu	Arg	Ser	Glu	Val	Lys	Asp	Arg	His	Leu		290	295	300
Val	Ala	Lys	Arg	Leu	Thr	Glu	His	Val	Gln	Asp	Lys	Ser	Lys	Leu		305	310	315
Pro	Ile	Leu	Ile	Phe	Pro	Glu	Gly	Thr	Cys	Ile	Asn	Asn	Thr	Ser		320	325	330
Val	Met	Met	Phe	Lys	Lys	Gly	Ser	Phe	Glu	Ile	Gly	Ala	Thr	Val		335	340	345
Tyr	Pro	Val	Ala	Ile	Lys	Tyr	Asp	Pro	Gln	Phe	Gly	Asp	Ala	Phe		350	355	360
Trp	Asn	Ser	Ser	Lys	Tyr	Gly	Met	Val	Thr	Tyr	Leu	Leu	Arg	Met		365	370	375
Met	Thr	Ser	Trp	Ala	Ile	Val	Cys	Ser	Val	Trp	Tyr	Leu	Pro	Pro		380	385	390

Met	Thr	Arg	Glu	Ala	Asp	Glu	Asp	Ala	Val	Gln	Phe	Ala	Asn	Arg
				395					400					405
Val	Lys	Ser	Ala	Ile	Ala	Arg	Gln	Gly	Gly	Leu	Val	Asp	Leu	Leu
				410					415					420
Trp	Asp	Gly	Gly	Leu	Lys	Arg	Glu	Lys	Val	Lys	Asp	Thr	Phe	Lys
				425					430					435
Glu	Glu	Gln	Gln	Lys	Leu	Tyr	Ser	Lys	Met	Ile	Val	Gly	Asn	His
				440					445					450
Lys	Asp	Arg	Ser	Arg	Ser									
				455										

<210> 249  
 <211> 1103  
 <212> DNA  
 <213> Homo sapiens

<400> 249  
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 ccttgccct cacgtctcct ccagggatgg cgctggcggc tttgatgatc 100  
 gccctcggca gcctcggcct ccacacctgg caggcccagg ctgttccac 150  
 catcctgccc ctgggcctgg ctccagacac ctttgacgat acctatgtgg 200  
 gttgtgcaga ggagatggag gagaaggcag cccccctgct aaaggaggaa 250  
 atggcccacc atgccctgct gcgggaatcc tgggaggcag cccaggagac 300  
 ctgggaggac aagcgtcgag ggcttacctt gccccctggc ttcaaagccc 350  
 agaatggaat agccattatg gtctacacca actcatcgaa caccttgtac 400  
 tgggagttga atcaggccgt gcggacgggc ggaggctccc gggagctcta 450  
 catgaggcac tttcccttca aggccctgca tttctacctg atccggggccc 500  
 tgcagctgct gcgaggcagt gggggctgca gcaggggacc tggggagggtg 550  
 gtgttccgag gtgtgggcag ccttcgcttt gaacccaaga ggctggggga 600  
 ctctgtccgc ttgggccagt ttgcctccag ctccctggat aaggcagtgg 650  
 cccacagatt tggggagaag aggcggggct gtgtgtctgc gccaggggtg 700  
 cagctagggt cacaatctga gggggcctcc tctctgcccc cctggaagac 750  
 tctgctcttg gcccctggag agttccagct ctccagggtt gggccctgaa 800  
 agtccaacat ctgccactta ggagccctgg gaacgggtga ccttcatatg 850  
 acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
 ccagccctag cagccttctc cccaaccagg atgttggcct ggggaggcca 950  
 cagcagggtc gagggaactc tgctatgtga tggggacttc ctgggacaag 1000  
 caaggaaagt actgaggcag ccacttgatt gaacggtggt gcaatgtgga 1050

gacatggagt tttattgagg tagctacgtg attaaatggt attgcagtgt 1100

gga 1103

<210> 250

<211> 240

<212> PRT

<213> Homo sapiens

<400> 250

Met	Ala	Leu	Ala	Ala	Leu	Met	Ile	Ala	Leu	Gly	Ser	Leu	Gly	Leu
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His	Thr	Trp	Gln	Ala	Gln	Ala	Val	Pro	Thr	Ile	Leu	Pro	Leu	Gly
			20						25					30

Leu	Ala	Pro	Asp	Thr	Phe	Asp	Asp	Thr	Tyr	Val	Gly	Cys	Ala	Glu
			35						40					45

Glu	Met	Glu	Glu	Lys	Ala	Ala	Pro	Leu	Leu	Lys	Glu	Glu	Met	Ala
				50					55					60

His	His	Ala	Leu	Leu	Arg	Glu	Ser	Trp	Glu	Ala	Ala	Gln	Glu	Thr
			65						70					75

Trp	Glu	Asp	Lys	Arg	Arg	Gly	Leu	Thr	Leu	Pro	Pro	Gly	Phe	Lys
			80						85					90

Ala	Gln	Asn	Gly	Ile	Ala	Ile	Met	Val	Tyr	Thr	Asn	Ser	Ser	Asn
			95						100					105

Thr	Leu	Tyr	Trp	Glu	Leu	Asn	Gln	Ala	Val	Arg	Thr	Gly	Gly	Gly
				110					115					120

Ser	Arg	Glu	Leu	Tyr	Met	Arg	His	Phe	Pro	Phe	Lys	Ala	Leu	His
				125					130					135

Phe	Tyr	Leu	Ile	Arg	Ala	Leu	Gln	Leu	Leu	Arg	Gly	Ser	Gly	Gly
				140					145					150

Cys	Ser	Arg	Gly	Pro	Gly	Glu	Val	Val	Phe	Arg	Gly	Val	Gly	Ser
				155					160					165

Leu	Arg	Phe	Glu	Pro	Lys	Arg	Leu	Gly	Asp	Ser	Val	Arg	Leu	Gly
				170					175					180

Gln	Phe	Ala	Ser	Ser	Ser	Leu	Asp	Lys	Ala	Val	Ala	His	Arg	Phe
				185					190					195

Gly	Glu	Lys	Arg	Arg	Gly	Cys	Val	Ser	Ala	Pro	Gly	Val	Gln	Leu
				200					205					210

Gly	Ser	Gln	Ser	Glu	Gly	Ala	Ser	Ser	Leu	Pro	Pro	Trp	Lys	Thr
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Leu	Leu	Leu	Ala	Pro	Gly	Glu	Phe	Gln	Leu	Ser	Gly	Val	Gly	Pro
				230					235					240

<210> 251

<211> 50

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 251  
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<210> 252  
<211> 1076  
<212> DNA  
<213> Homo sapiens

<400> 252  
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caacatgcct caccctcatc tatatccttt ggcagctcac agggtcagca 100  
gcctctggac ccgtgaaaga gctggtcggt tccgttgggtg gggccgtgac 150  
tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
tcaacacaac ccctcttgtc accatacagc cagaaggggg cactatcata 250  
gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300  
ctccctgaag ctacgaaaac tgaagaagaa tgactcaggg atctactatg 350  
tggggatata cagctcatca ctccagcagc cctccacca ggagtacgtg 400  
ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450  
gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattggaac 500  
atggggaaga ggatgtgatt tatacctgga aggccctggg gcaagcagcc 550  
aatgagtccc ataatgggtc catcctcccc atctcctgga gatggggaga 600  
aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaaact 650  
tctcaagccc catccttgcc aggaagctct gtgaagggtc tgctgatgac 700  
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cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850  
cctaacatat gccccattc tggagagaac acagagtaac acacaatccc 900  
tcacactaat agaacaatcc taaaggaaga tccagcaaact acggtttact 950  
ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000  
atgccagaca caccaaggct atttgcctat gagaatgtta tctagacagc 1050  
agtgactccc cctaagtctc tgctca 1076

<210> 253  
<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 253  
Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp



320 325 330

Tyr Glu Asn Val Ile  
335

<210> 254  
<211> 1053  
<212> DNA  
<213> Homo sapiens

<400> 254  
ctgggttcccc aacatgctc accctcatct atatccttg gcagtcaca 50  
gggtcagcag cctctggacc cgtgaaagag ctggtcggtt ccgttgggtg 100  
ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150  
tctggacctt caacacaacc cctcttgtca ccatacagcc agaagggggc 200  
actatcatag tgacccaaaa tcgtaatagg gagagagtag acttcccaga 250  
tggaggctac tccctgaagc tcagcaaact gaagaagaat gactcaggga 300  
tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350  
gagtacgtgc tgcattgtcta cgagcacctg tcaaagccta aagtcacat 400  
gggtctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450  
gcattggaaca tggggaagag gatgtgattt atacctggaa ggccctgggg 500  
caagcagcca atgagtccca taatgggtcc atcctcccca tctcctggag 550  
atggggagaa agtgatatga ccttcatctg cgttgccagg aaccctgtca 600  
gcagaaaactt ctcaagcccc atccttgcca ggaagctctg tgaaggtgct 650  
gctgatgacc cagattcctc catggtcctc ctgtgtctcc tgttgggtgcc 700  
cctcctgctc agtctctttg tactggggct atttctttgg tttctgaaga 750  
gagagagaca agaagagtac attgaagaga agaagagagt ggacatttgt 800  
cgggaaactc ctaacatatg cccccattct ggagagaaca cagagtacga 850  
cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900  
cggtttactc cactgtggaa ataccgaaaa agatggaaaa tccccactca 950  
ctgctcacga tgccagacac accaaggcta tttgcctatg agaatgttat 1000  
ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050  
aaa 1053

<210> 255  
<211> 860  
<212> DNA  
<213> Homo sapiens

<400> 255  
gaaagacgtg gtctgacag acagacaatc ctattcccta ccaaaatgaa 50



Ala	His	Leu	Ile	Asn	Glu	Lys	Asp	Gly	Glu	Thr	Phe	Gln	Leu	Met
				125					130					135
Gly	Leu	Tyr	Gly	Arg	Glu	Pro	Asp	Leu	Ser	Ser	Asp	Ile	Lys	Glu
				140					145					150
Arg	Phe	Ala	Gln	Leu	Cys	Glu	Glu	His	Gly	Ile	Leu	Arg	Glu	Asn
				155					160					165
Ile	Ile	Asp	Leu	Ser	Asn	Ala	Asn	Arg	Cys	Leu	Gln	Ala	Arg	Glu
				170					175					180

<210> 257  
 <211> 766  
 <212> DNA  
 <213> Homo sapiens

<400> 257  
 ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50  
 gacatcctgc aatggattca gcttgcctgt tctactgctg ttaggagtag 100  
 ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaattt 150  
 tctcaaaacc ccatctcttg ctttgagtgg tggttcccag gaattatagg 200  
 agcaggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250  
 aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300  
 agtgtgatca cagtcattgg tgctctgtat tgcattgctga tatccatcca 350  
 ggctctctta aaaggtcctc tcatgtgtaa ttctccaagc aacagtaatg 400  
 ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450  
 ttcaacttgc agtgggtttt caatgactct tgtgcacctc ctactggttt 500  
 caataaaccc accagtaacg acaccatggc gagtggctgg agagcatcta 550  
 gtttccactt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600  
 gtatttttag gtctattgct tgttggaatt ctggagggtcc tgtttgggct 650  
 cagtcagata gtcacgggtt tccttggttg tctgtgtgga gtctctaagc 700  
 gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750  
 gtttgaaaaa aaaaaa 766

<210> 258  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 258  
 Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu  
 1 5 10 15  
 Leu Val Leu Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu  
 20 25 30  
 Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile



	35	40	45
Ser Cys Phe Glu Trp Trp Phe Pro Gly Ile Ile Gly Ala Gly Leu	50	55	60
Met Ala Ile Pro Ala Thr Thr Met Ser Leu Thr Ala Arg Lys Arg	65	70	75
Ala Cys Cys Asn Asn Arg Thr Gly Met Phe Leu Ser Ser Phe Phe	80	85	90
Ser Val Ile Thr Val Ile Gly Ala Leu Tyr Cys Met Leu Ile Ser	95	100	105
Ile Gln Ala Leu Leu Lys Gly Pro Leu Met Cys Asn Ser Pro Ser	110	115	120
Asn Ser Asn Ala Asn Cys Glu Phe Ser Leu Lys Asn Ile Ser Asp	125	130	135
Ile His Pro Glu Ser Phe Asn Leu Gln Trp Phe Phe Asn Asp Ser	140	145	150
Cys Ala Pro Pro Thr Gly Phe Asn Lys Pro Thr Ser Asn Asp Thr	155	160	165
Met Ala Ser Gly Trp Arg Ala Ser Ser Phe His Phe Asp Ser Glu	170	175	180
Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu	185	190	195
Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile	200	205	210
Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg	215	220	225
Ser Gln Ile Val			

<210> 259  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
 gtcgaatcca aatcactcat tgtgaaagct gagctcacag ccgaataagc 50  
 caccatgagg ctgtcagtgt gtctcctgat ggtctcgtg gccctttgct 100  
 gctaccaggc ccatgctctt gtctgcccag ctgttgcttc tgagatcaca 150  
 gtctttcttat tcttaagtga cgctgcggta aacctccaag ttgccaaact 200  
 taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
 ccgatcagat atcttttaag aaacgactct cattgaaaaa gtcttggtgg 300  
 aaatagtga aaaatgtggt gtgtgacatg taaaatgct caacctggtt 350  
 tccaaagtct ttcaacgaca ccctgatctt cactaaaaat tgtaaagggt 400

tcaacacgtt gctttaataa atcacttgcc ctgc 434

<210> 260

<211> 83

<212> PRT

<213> Homo sapiens

<400> 260

Met Arg Leu Ser Val Cys Leu Leu Met Val Ser Leu Ala Leu Cys  
1 5 10 15

Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu  
20 25 30

Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln  
35 40 45

Val Ala Lys Leu Asn Pro Pro Pro Glu Ala Leu Ala Ala Lys Leu  
50 55 60

Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu  
65 70 75

Ser Leu Lys Lys Ser Trp Trp Lys  
80

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261

atccgttctc tgcgctgcca gctcaggtga gccctcgcca aggtgacctc 50

gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100

ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150

cgccccagtg cctctcccc tgcagccctg cccctogaac tgtgacatgg 200

agagagtgac cctggccctt ctccactagg caggcctgac tgccttgga 250

gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300

aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350

ggatcgcggc agttctgagt ggcaaagtca aatacaagag cagccagaag 400

cagcacagtc ctgtacctga gaaggccatc ccactcatca ctccaggctc 450

tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500

taacactggc cccagcacc tcctccctg ggaggcotta tcctcaagga 550

aggacttctc tccaagggca ggtgttagg cccctttctg atcaggaggc 600

ttctttatga attaaactcg cccaccacc ccctca 636

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<400> 262

Met	Glu	Arg	Val	Thr	Leu	Ala	Leu	Leu	Leu	Ala	Gly	Leu	Thr
1				5				10					15
Ala	Leu	Glu	Ala	Asn	Asp	Pro	Phe	Ala	Asn	Lys	Asp	Asp	Pro
				20					25				30
Tyr	Tyr	Asp	Trp	Lys	Asn	Leu	Gln	Leu	Ser	Gly	Leu	Ile	Cys
				35					40				45
Gly	Leu	Leu	Ala	Ile	Ala	Gly	Ile	Ala	Ala	Val	Leu	Ser	Gly
				50					55				60
Cys	Lys	Tyr	Lys	Ser	Ser	Gln	Lys	Gln	His	Ser	Pro	Val	Pro
				65					70				75
Lys	Ala	Ile	Pro	Leu	Ile	Thr	Pro	Gly	Ser	Ala	Thr	Thr	Cys
				80					85				

<210> 263

<211> 1676

<212> DNA

<213> Homo sapiens

<400> 263

ggagaagagg ttgtgtggga caagctgctc cgcacagaag gatgtcgctg 50

ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100

actcctgctg ctggttgtgg gctcctggct actcgccgc atcctggctt 150

ggacctatgc cttctataac aactgccgcc ggctccagtg tttcccacag 200

ccccaaaac ggaactgggt ttgggggtcac ctgggcctga tcaactctac 250

agaggagggc ttgaaggact cgaccagat gtcggccacc tattcccagg 300

gctttacggt atggctgggt cccatcatcc ccttcatcgt tttatgccac 350

cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcacccaa 400

ggataatctc ttcattcaggt tctgaagcc ctggctggga gaagggatac 450

tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgccc 500

gccttccatt tcaacatcct gaagtcctat ataacgatct tcaacaagag 550

tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600

gtcgtctgga catgtttgag cacatcagcc tcatgacctt ggacagtcta 650

cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700

atatattgcc accatcttgg agctcagtcg ccttgtagag aaaagaagcc 750

agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800

cggcgcttcc acagggcctg ccgcctgggt catgacttca cagacgctgt 850

catccgggag cggcgctgca cctcccccac tcagggtatt gatgattttt 900

tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950

ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050  
tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100  
tgccgacagg aggtgcaaga gcttctgaag gaccgcatc ctaaagagat 1150  
tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
agagcctgag gttacatccc ccagctccct tcctctcccg atgctgcacc 1250  
caggacattg ttctcccaga tggccgagtc atccccaaag gcattacctg 1300  
cctcatcgat attatagggg tccatcacia cccaactgtg tggccggatc 1350  
ctgaggtcta cgaccccttc cgctttgacc cagagaacag caaggggagg 1400  
tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
gcaggcgttc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
tgcaattccg gttcctgccg gaccacactg agccccgcag gaagctggaa 1550  
ttgatcatgc gcgccgaggg cgggctttgg ctgcgggtgg agcccctgaa 1600  
tgtaggcttg cagtgacttt ctgaccatc cacctgtttt tttgcagatt 1650  
gtcatgaata aaacggtgct gtcaaa 1676

<210> 264  
<211> 524  
<212> PRT  
<213> Homo sapiens

<400> 264  
Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala  
1 5 10 15  
Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu  
20 25 30  
Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys  
35 40 45  
Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe  
50 55 60  
Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys  
65 70 75  
Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val  
80 85 90  
Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp  
95 100 105  
Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys  
110 115 120  
Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly  
125 130 135

Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met
				140					145					150
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr
				155					160					165
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His
				170					175					180
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile
				185					190					195
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe
				200					205					210
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile
				215					220					225
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu
				230					235					240
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg
				245					250					255
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val
				260					265					270
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp
				275					280					285
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp
				290					295					300
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp
				305					310					315
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His
				320					325					330
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala
				335					340					345
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu
				350					355					360
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu
				365					370					375
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg
				380					385					390
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp
				395					400					405
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys
				410					415					420
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro
				425					430					435
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser
				440					445					450

Lys	Gly	Arg	Ser	Pro	Leu	Ala	Phe	Ile	Pro	Phe	Ser	Ala	Gly	Pro
				455					460					465
Arg	Asn	Cys	Ile	Gly	Gln	Ala	Phe	Ala	Met	Ala	Glu	Met	Lys	Val
				470					475					480
Val	Leu	Ala	Leu	Met	Leu	Leu	His	Phe	Arg	Phe	Leu	Pro	Asp	His
				485					490					495
Thr	Glu	Pro	Arg	Arg	Lys	Leu	Glu	Leu	Ile	Met	Arg	Ala	Glu	Gly
				500					505					510
Gly	Leu	Trp	Leu	Arg	Val	Glu	Pro	Leu	Asn	Val	Gly	Leu	Gln	
				515					520					

<210> 265  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 265  
 caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
 ctggcctcct gctgtttgct ttacacagga ttcttaaata ctctcttata 100  
 tcttcctctc cttgactcca gggaaatata ctttcaactc tcagcacctc 150  
 atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
 cagatattgc cagagatgct gggcgcagaa agaggggata ttctcaggaa 250  
 agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300  
 ttcaggattt ctctggacaa gatcctaaca ttttactgag tcatcttttg 350  
 gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
 gaaataactgt gtctgaagtg aaataagcat ctgttagtca gctcagaaac 450  
 acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
 tggagaaaaa ctaggcaaac tacacctgtg tcattgttac ctggaaaata 550  
 aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 266  
 Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu  
 1 5 10 15  
 Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser  
 20 25 30  
 Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
 35 40 45  
 Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
 50 55 60

Gly	Ala	Glu	Arg	Gly	Asp	Ile	Leu	Arg	Lys	Ala	Asp	Ser	Ser	Thr
				65					70					75
Asn	Ile	Phe	Asn	Pro	Arg	Gly	Asn	Leu	Arg	Lys	Phe	Gln	Asp	Phe
				80					85					90
Ser	Gly	Gln	Asp	Pro	Asn	Ile	Leu	Leu	Ser	His	Leu	Leu	Ala	Arg
				95					100					105
Ile	Trp	Lys	Pro	Tyr	Lys	Lys	Arg	Glu	Thr	Pro	Asp	Cys	Phe	Trp
				110					115					120

Lys Tyr Cys Val

<210> 267  
 <211> 654  
 <212> DNA  
 <213> Homo sapiens

<400> 267  
 gaacattttt agttcccaag gaatgtacat cagccccacg gaagctaggc 50  
 cacctctggtg atgggggttg tggtttaaaa caaacgccag tcctcctata 100  
 taaggacctg acagccacca ggcaaccact ccgccaggaa ctgcaggccc 150  
 acctgtctgc aaccagctg aggccatgcc ctcccaggg accgtctgca 200  
 gcctcctgct cctcggtatg ctctggctgg acttggccat ggcaggctcc 250  
 agcttcctga gccctgaaca ccagagagtc cagcagagaa aggagtcgaa 300  
 gaagccacca gccaagctgc agccccgagc tctagcaggc tggctccgcc 350  
 cggaagatgg aggtcaagca gaaggggcag aggatgaact ggaagtccgg 400  
 ttcaacgccc cttttgatgt tggaatcaag ctgtcagggg ttcagtacca 450  
 gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaag 500  
 aggccaaaga ggccccagcc gacaagtgat cggccacaag cttactcac 550  
 ctctctctaa gtttagaagc gtcctctggt cttttcgctt gcttctgcag 600  
 caactccac gactgttgta caagctcagg aggogaataa atgttcaaac 650  
 tgta 654

<210> 268  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 268  
 Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Gly Met  
 1 5 10 15  
 Leu Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro  
 20 25 30  
 Glu His Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro  
 35 40 45

Ala	Lys	Leu	Gln	Pro	Arg	Ala	Leu	Ala	Gly	Trp	Leu	Arg	Pro	Glu
				50					55					60
Asp	Gly	Gly	Gln	Ala	Glu	Gly	Ala	Glu	Asp	Glu	Leu	Glu	Val	Arg
				65					70					75
Phe	Asn	Ala	Pro	Phe	Asp	Val	Gly	Ile	Lys	Leu	Ser	Gly	Val	Gln
				80					85					90
Tyr	Gln	Gln	His	Ser	Gln	Ala	Leu	Gly	Lys	Phe	Leu	Gln	Asp	Ile
				95					100					105
Leu	Trp	Glu	Glu	Ala	Lys	Glu	Ala	Pro	Ala	Asp	Lys			
				110					115					

<210> 269  
 <211> 1332  
 <212> DNA  
 <213> Homo sapiens

<400> 269  
 cggccacagc tggcatgctc tgcctgatcg ccatacctgct gtatgtcctc 50  
 gtccagtacc tcgtgaaccc cggggtgctc cgcacggacc ccagatgtca 100  
 agaatatgaa cacgtggctg ctgttcctcc ccctgttccc ggtgcagggtg 150  
 cagaccctga tagtcgtgat catcgggatg ctcgtgctcc tgctggactt 200  
 tcttggett ggtcacctgg gccagctgct catcttccac atctacctga 250  
 gtatgtcccc caccctaagc ccccgatccc cccaaggctg ggtggtcaga 300  
 gctgctcatc ttacacctct acttgagtat gtccctaacc ctgagcccc 350  
 cagcctggg gccagagtct ttgtcccccg tgtgcgcatg tgttcagggt 400  
 cagcctctcc cagaagtgag atcatggaca aaaagggcaa atcacaggaa 450  
 gaaattaaat ccataaggac ccagcaggcc cagcaagaag ctgaactcac 500  
 gccgagacct gcaggagtgg tgccagggtg ttgaagtaac aagtttaaaa 550  
 tgttcagaga caatggaatg gaatctatta ggcaagaaca ggacattatg 600  
 aaataaggac aggtggactt ccaaaaacac aagtagaaat tctaacaatg 650  
 aaatatatta caggcaggtc acccactaac caaacaactg aagcgagagc 700  
 tgtggtcttg cttggtctca cagtgggcac agcggtaggc ggtcagtcac 750  
 gttgctgaac gacggagggt aaactcccc gcccagaagaa aacctgtgtt 800  
 ggaagtaaca acaacctccc tgctcctggc accagccgtt ttggtcatgg 850  
 tgggccagct gcaaagcgtc ttccattctc tgggcagtgg tggccccgag 900  
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 aggccagccc ccaagaatgc cctgctcctg acagcttggc caaccctgg 1000  
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 cgcatactctt acagtcactg ttgtcttgcc tgagggttga atttttttta 1250  
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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
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 Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
 35 40 45  
 Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
 50 55 60  
 Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
 65 70 75  
 Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
 80 85 90  
 Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
 95 100 105  
 Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
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 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

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 tgctcagcaa ctactggttt gtgggcacac agaaggtgcc caagcccoctg 200  
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<210> 272  
<211> 285  
<212> PRT  
<213> Homo sapiens

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Thr Ser Leu Leu Ser Asn Tyr Trp Phe Val Gly Thr Gln Lys Val

	35	40	45
Pro Lys Pro Leu Cys Glu Lys Gly Leu Ala Ala Lys Cys Phe Asp	50	55	60
Met Pro Val Ser Leu Asp Gly Asp Thr Asn Thr Ser Thr Gln Glu	65	70	75
Val Val Gln Tyr Asn Trp Glu Thr Gly Asp Asp Arg Phe Ser Phe	80	85	90
Arg Ser Phe Arg Ser Gly Met Trp Leu Ser Cys Glu Glu Thr Val	95	100	105
Glu Glu Pro Gly Glu Arg Cys Arg Ser Phe Ile Glu Leu Thr Pro	110	115	120
Pro Ala Lys Arg Gly Glu Lys Gly Leu Leu Glu Phe Ala Thr Leu	125	130	135
Gln Gly Pro Cys His Pro Thr Leu Arg Phe Gly Gly Lys Arg Leu	140	145	150
Met Glu Lys Ala Ser Leu Pro Ser Pro Pro Leu Gly Leu Cys Gly	155	160	165
Lys Asn Pro Met Val Ile Pro Gly Asn Ala Asp His Leu His Arg	170	175	180
Thr Ser Ile His Gln Leu Pro Pro Ala Thr Asn Arg Leu Ala Thr	185	190	195
His Trp Glu Pro Cys Leu Trp Ala Gln Thr Glu Arg Leu Cys Cys	200	205	210
Cys Phe Leu Cys Pro Val Arg Ser Pro Gly Asp Gly Gly Pro His	215	220	225
Asp Val Phe Thr Ser Leu Pro Ser Asp Cys Gln Leu Gly Ser Arg	230	235	240
Arg Leu Glu Thr Thr Cys Leu Glu Leu Trp Leu Gly Leu Leu His	245	250	255
Gly Leu Ala Leu Leu His Leu Leu His Gly Val Gly Cys His His	260	265	270
Leu Gln His Val His Gln Asp Gly Ala Gly Val Gln Val Gln Ala	275	280	285

<210> 273

<211> 1158

<212> DNA

<213> Homo sapiens

<400> 273

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<210> 275  
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<212> DNA  
<213> Homo sapiens

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<210> 276

<211> 131

<212> PRT

<213> Homo sapiens

<400> 276

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			20					25						30

Asn Lys Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser



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<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

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				20					25					30
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys
				35					40					45
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala
				50					55					60
Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn
				65					70					75
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln
				80					85					90
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln
				95					100					105
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu
				110					115					120
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro
				125					130					135
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln
				140					145					150
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr
				155					160					165
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile
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Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn
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Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys
				200					205					210
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn
				215					220					225
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu
				230					235					240
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val
				245					250					255
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr
				260					265					270
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu
				275					280					285

Gln	Leu	Asp	Ser	Asn	Arg	Leu	Thr	Tyr	Ile	Glu	Pro	Arg	Ile	Leu	290	295	300
Asn	Ser	Trp	Lys	Ser	Leu	Thr	Ser	Ile	Thr	Leu	Ala	Gly	Asn	Leu	305	310	315
Trp	Asp	Cys	Gly	Arg	Asn	Val	Cys	Ala	Leu	Ala	Ser	Trp	Leu	Ser	320	325	330
Asn	Phe	Gln	Gly	Arg	Tyr	Asp	Gly	Asn	Leu	Gln	Cys	Ala	Ser	Pro	335	340	345
Glu	Tyr	Ala	Gln	Gly	Glu	Asp	Val	Leu	Asp	Ala	Val	Tyr	Ala	Phe	350	355	360
His	Leu	Cys	Glu	Asp	Gly	Ala	Glu	Pro	Thr	Ser	Gly	His	Leu	Leu	365	370	375
Ser	Ala	Val	Thr	Asn	Arg	Ser	Asp	Leu	Gly	Pro	Pro	Ala	Ser	Ser	380	385	390
Ala	Thr	Thr	Leu	Ala	Asp	Gly	Gly	Glu	Gly	Gln	His	Asp	Gly	Thr	395	400	405
Phe	Glu	Pro	Ala	Thr	Val	Ala	Leu	Pro	Gly	Gly	Glu	His	Ala	Glu	410	415	420
Asn	Ala	Val	Gln	Ile	His	Lys	Val	Val	Thr	Gly	Thr	Met	Ala	Leu	425	430	435
Ile	Phe	Ser	Phe	Leu	Ile	Val	Val	Leu	Val	Leu	Tyr	Val	Ser	Trp	440	445	450
Lys	Cys	Phe	Pro	Ala	Ser	Leu	Arg	Gln	Leu	Arg	Gln	Cys	Phe	Val	455	460	465
Thr	Gln	Arg	Arg	Lys	Gln	Lys	Gln	Lys	Gln	Thr	Met	His	Gln	Met	470	475	480
Ala	Ala	Met	Ser	Ala	Gln	Glu	Tyr	Tyr	Val	Asp	Tyr	Lys	Pro	Asn	485	490	495
His	Ile	Glu	Gly	Ala	Leu	Val	Ile	Ile	Asn	Glu	Tyr	Gly	Ser	Cys	500	505	510
Thr	Cys	His	Gln	Gln	Pro	Ala	Arg	Glu	Cys	Glu	Val				515	520	

<210> 279

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 279

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<210> 280

<211> 709

<212> DNA

<213> Homo sapiens

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 gtgctgttcc gcagcatctc ggctctgggc cggacgttca cgcgcgacga 550  
 ggacctgggt gttttcctgg cgtcccgccg gggccgccta cgcttcacg 600  
 ggccgggccc gctgagcgtg ggccccgagg actgcgcgga cccgtcgggc 650  
 tgcgtctgag gcaacgcgga ggccgagccg tggatctgag cggccctgct 700  
 ccagcccct 709

<210> 281  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
 Met Gly Val Leu Gly Arg Val Leu Leu Trp Leu Gln Leu Cys Ala  
 1 5 10 15  
 Leu Thr Gln Ala Val Ser Lys Leu Trp Val Pro Asn Thr Asp Phe  
 20 25 30  
 Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
 35 40 45  
 Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
 50 55 60  
 Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
 65 70 75  
 Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
 80 85 90  
 Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
 95 100 105  
 Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
 110 115 120  
 Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
 125 130 135

Pro	Cys	Arg	His	Asp	Asp	Val	Phe	Phe	Pro	Pro	Ser	Ala	Ser	Phe
				140					145					150
Arg	Val	Gly	Leu	Gly	Pro	Gly	Ala	Ser	Pro	Val	Arg	Val	Arg	Ser
				155					160					165
Ile	Ser	Ala	Leu	Gly	Arg	Thr	Phe	Thr	Arg	Asp	Glu	Asp	Leu	Ala
				170					175					180
Val	Phe	Leu	Ala	Ser	Arg	Ala	Gly	Arg	Leu	Arg	Phe	His	Gly	Pro
				185					190					195
Gly	Ala	Leu	Ser	Val	Gly	Pro	Glu	Asp	Cys	Ala	Asp	Pro	Ser	Gly
				200					205					210
Cys	Val	Cys	Gly	Asn	Ala	Glu	Ala	Gln	Pro	Trp	Ile	Cys	Ala	Ala
				215					220					225
Leu	Leu	Gln	Pro											

<210> 282  
 <211> 644  
 <212> DNA  
 <213> Homo sapiens

<400> 282  
 atcgcatcaa ttgggagtag catcttcctc atgggaccag tgaaacagct 50  
 gaagcgaatg tttgagccta ctggtttgat tgcaactatc atggtgctgt 100  
 tgtgttttgc acttaccctg tggttctgcct tttggtggca taacaaggga 150  
 cttgcactta tcttctgcat tttgcagtct ttggcattga cgtggtacag 200  
 cctttccttc ataccatttg caagggatgc tgtgaagaag tgttttgccg 250  
 tgtgtcttgc ataattcatg gccagtttta tgaagctttg gaaggcacta 300  
 tggacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350  
 tacagacatg tgccttttat cttgcagcaa tgtgttgctt gtgattcgaa 400  
 catttgaggg ttacttttgg aagcaacaat acattctcga acctgaatgt 450  
 cagtagcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500  
 cctcatgtac ctgtttcctc tctggatgtt gtccactga attcccatga 550  
 atacaaacct attcagcaac agcaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
 <211> 77  
 <212> PRT  
 <213> Homo sapiens

<400> 283  
 Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro Thr Arg  
 1 5 10 15  
 Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr Leu

	20		25		30
Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala Leu Ile Phe					
	35		40		45
Cys Ile Leu Gln Ser Leu Ala Leu Thr Trp Tyr Ser Leu Ser Phe					
	50		55		60
Ile Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val Cys					
	65		70		75
Leu Ala					

<210> 284  
 <211> 2623  
 <212> DNA  
 <213> Homo sapiens

<400> 284  
 ttgagcgcag gtgagctcct ggcggttccg ggggcgttcc tccagtcacc 50  
 ctcccgcgt taccgcggc ggcgccgagg gagtctcctc cagaccctcc 100  
 ctcccgttgc tccaaactaa tacggactga acggatcgct gcgagggtgg 150  
 gagagaaaat tagggggaga aaggacagag agagcaacta ccatccatag 200  
 ccagatagat tatcttacac tgaactgac aagtactttg aaaatgactt 250  
 cgaaatttat cttggtgtcc ttcatacttg ctgcactgag tctttcaacc 300  
 accttttctc tccaactaga ccagcaaaag gttctactag tttcttttga 350  
 tggattccgt tgggattact tatataaagt tccaacgccc cattttcatt 400  
 atattatgaa atatggtggt cacgtgaagc aagttactaa tgtttttatt 450  
 aaaaaaacct accctaacca ttatactttg gtaactggcc tctttgcaga 500  
 gaatcatggg attgttgcaa atgatatggt tgatcctatt cggaacaaat 550  
 ctttctcctt ggatcacatg aatatttatg attccaagtt ttgggaagaa 600  
 gcgacaccaa tatggatcac aaaccagagg gcaggacata ctagtggtgc 650  
 agccatgtgg cccggaacag atgtaaaaat acataagcgc tttcctactc 700  
 attacatgcc ttacaatgag tcagtttcat ttgaagatag agttgccaaa 750  
 attgttgaat ggtttacgtc aaaagagccc ataaatcttg gtcttctcta 800  
 ttgggaagac cctgatgaca tgggccacca tttgggacct gacagtcgc 850  
 tcatggggcc tgtcatttca gatattgaca agaagttagg atatctcata 900  
 caaatgctga aaaaggcaaa gttgtggaac actctgaacc taatcatcac 950  
 aagtgatcat ggaatgacgc agtgctctga ggaaagggtta atagaacttg 1000  
 accagtacct ggataaagac cactataccc tgattgatca atctccagta 1050  
 gcagccatct tgccaaaaga aggtaaattt gatgaagtct atgaagcact 1100

aactcacgct catcctaato ttactgttta caaaaaagaa gacgttccag 1150  
aaaggtggca ttacaaatac aacagtcgaa ttcaaccaat catagcagtg 1200  
gctgatgaag ggtggcacat ttacagaat aagtcagatg acttttctgtt 1250  
aggcaaccac ggttacgata atgcgttagc agatatgcat ccaatatttt 1300  
tagcccatgg tcttgccttc agaaagaatt tctcaaaaga agccatgaac 1350  
tccacagatt tgtaccocact actatgccac ctctcaata tcaactgcat 1400  
gccacacaat ggatcattct ggaatgtcca ggatctgctc aattcagcaa 1450  
tgccaagggg ggtcccttat acacagagta ctatactcct ccctggtagt 1500  
gttaaaccag cagaatatga ccaagagggg tcataccctt atttcatagg 1550  
ggtctctctt ggcagcatta tagtgattgt attttttgta attttcatta 1600  
agcatttaat tcacagtcaa atacctgcct tacaagatat gcatgctgaa 1650  
atagctcaac cattattaca agcctaattgt tactttgaag tggatttgca 1700  
tattgaagtg gagattccat aattatgtca gtgttttaaag gtttcaaatt 1750  
ctgggaaacc agttccaaac atctgcagaa accattaagc agttacatat 1800  
ttaggtatac acacacacac acacacacac atacacacac acggaccaaa 1850  
atacttacac ctgcaaagga ataaagatgt gagagtatgt ctccattggt 1900  
cactgtagca tagggataga taagatcctg ctttatttgg acttggcgca 1950  
gataatgtat atatttagca actttgcaat atgtaaagta ctttatatat 2000  
tgcactttaa atttctctcc tgatgggtac ttttaattga aatgcacttt 2050  
atggacagtt atgtcttata acttgattga aaatgacaac tttttgcacc 2100  
catgtcacag aatacttggt acgcattggt caaactgaag gaaatttcta 2150  
ataatcccga ataatagaaca tagaaatcta tctccataaa ttgagagaag 2200  
aagaaggtga taagtgttga aaattaaatg tgataacctt tgaaccttga 2250  
atttttgaga tgtattccca acagcagaat gcaactgtgg gcatttcttg 2300  
tcttatttct tccagagaa cgtgggtttc atttattttt ccctcaaaag 2350  
agagtcaaact actgacagat tcgttctaaa tatattgttt ctgtcataaa 2400  
attattgtga tttcctgatg agtcatatta ctgtgatttt cataataatg 2450  
aagacaccat gaatatactt ttcttctata tagttcagca atggcctgaa 2500  
tagaagcaac caggcaccat ctgagcaatg ttttctcttg tttgtaatta 2550  
tttgctcctt tgaaaattaa atcactatta attacattaa aaatcaaatt 2600  
ggataaaaaa aaaaaaaaaa aaa 2623

<210> 285

<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285

Met	Thr	Ser	Lys	Phe	Ile	Leu	Val	Ser	Phe	Ile	Leu	Ala	Ala	Leu	
1				5					10					15	
Ser	Leu	Ser	Thr	Thr	Phe	Ser	Leu	Gln	Leu	Asp	Gln	Gln	Lys	Val	
				20					25					30	
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys	
				35					40					45	
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His	
				50					55					60	
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn	
				65					70					75	
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile	
				80					85					90	
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser	
				95					100					105	
Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala	
				110					115					120	
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly	
				125					130					135	
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe	
				140					145					150	
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp	
				155					160					165	
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile	
				170					175					180	
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His	
				185					190					195	
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp	
				200					205					210	
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala	
				215					220					225	
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly	
				230					235					240	
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr	
				245					250					255	
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala	
				260					265					270	
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala	
				275					280					285	
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp	



	290	295	300
Val Pro Glu Arg	Trp His Tyr Lys Tyr	Asn Ser Arg Ile Gln	Pro
	305	310	315
Ile Ile Ala Val	Ala Asp Glu Gly Trp	His Ile Leu Gln Asn	Lys
	320	325	330
Ser Asp Asp Phe	Leu Leu Gly Asn His	Gly Tyr Asp Asn Ala	Leu
	335	340	345
Ala Asp Met His	Pro Ile Phe Leu Ala	His Gly Pro Ala Phe	Arg
	350	355	360
Lys Asn Phe Ser	Lys Glu Ala Met Asn	Ser Thr Asp Leu Tyr	Pro
	365	370	375
Leu Leu Cys His	Leu Leu Asn Ile Thr	Ala Met Pro His Asn	Gly
	380	385	390
Ser Phe Trp Asn	Val Gln Asp Leu Leu	Asn Ser Ala Met Pro	Arg
	395	400	405
Val Val Pro Tyr	Thr Gln Ser Thr Ile	Leu Leu Pro Gly Ser	Val
	410	415	420
Lys Pro Ala Glu	Tyr Asp Gln Glu Gly	Ser Tyr Pro Tyr Phe	Ile
	425	430	435
Gly Val Ser Leu	Gly Ser Ile Ile Val	Ile Val Phe Phe Val	Ile
	440	445	450
Phe Ile Lys His	Leu Ile His Ser Gln	Ile Pro Ala Leu Gln	Asp
	455	460	465
Met His Ala Glu	Ile Ala Gln Pro Leu	Leu Gln Ala	
	470	475	

<210> 286  
 <211> 1337  
 <212> DNA  
 <213> Homo sapiens

<400> 286  
 ggatttttgt gatccgcgat tcgctccac gggcgggacc tttgtaactg 50  
 cgggaggccc aggacaggcc caccctgcgg ggcgggaggc agccggggtg 100  
 agggaggtga agaaaccaag acgcagagag gccaaagcccc ttgccttggg 150  
 tcacacagcc aaaggaggca gagccagaac tcacaaccag atccagaggc 200  
 aacagggaca tggccacctg ggacgaaaag gcagtcaccc gcagggccaa 250  
 ggtggctccc gctgagagga tgagcaagtt ctttaaggcac ttcacggtcg 300  
 tgggagacga ctaccatgcc tggaacatca actacaagaa atgggagaat 350  
 gaagaggagg aggaggagga ggagcagcca ccacccacac cagtctcagg 400  
 cgaggaaggc agagctgcag cccctgacgt tgcccctgcc cctggccccg 450  
 caccagggc cccccttgac ttcaggggca tgttgaggaa actgttcagc 500



Ile	Leu	Asp	Leu	Lys	Ile	Ile	Gln	Pro	Asp	Lys	Asn	Asn	Tyr	Ala	
				125					130					135	
Ala	Met	Val	Phe	His	Tyr	Met	Ser	Ile	Thr	Ile	Leu	Val	Phe	Phe	
				140					145					150	
Met	Met	Glu	Ile	Ile	Phe	Lys	Leu	Phe	Val	Phe	Arg	Leu	Ser	Ser	
				155					160					165	
Phe	Thr	Thr	Ser	Leu	Arg	Ser	Trp	Met	Pro	Val	Val	Val	Val	Val	
				170					175					180	
Ser	Phe	Ile	Leu	Asp	Ile	Val	Leu	Leu	Phe	Gln	Glu	His	Gln	Phe	
				185					190					195	
Glu	Ala	Leu	Gly	Leu	Leu	Ile	Leu	Leu	Arg	Leu	Trp	Arg	Val	Ala	
				200					205					210	
Arg	Ile	Ile	Asn	Gly	Ile	Ile	Ile	Ser	Val	Lys	Thr	Arg	Ser	Glu	
				215					220					225	
Arg	Gln	Leu	Leu	Arg	Leu	Lys	Gln	Met	Asn	Val	Gln	Leu	Ala	Ala	
				230					235					240	
Lys	Ile	Gln	His	Leu	Glu	Phe	Ser	Cys	Ser	Glu	Lys	Pro	Leu	Asp	
				245					250					255	

<210> 288  
 <211> 3334  
 <212> DNA  
 <213> Homo sapiens

<400> 288  
 cggctcgagc togagccgaa tcggctcgag gggcagtgga gcacccagca 50  
 ggccgccaac atgctctgtc tgtgcctgta cgtgccggtc atcggggaag 100  
 cccagaccga gttccagtac tttgagtcga aggggctccc tgccgagctg 150  
 aagtcatttt tcaagctcag tgtcttcac cctcccagg aattctccac 200  
 ctaccgccag tggaagcaga aaattgtaca agctggagat aaggaccttg 250  
 atgggcagct agactttgaa gaatttgtcc attatctcca agatcatgag 300  
 aagaagctga ggctggtggt taagattttg gacaaaaaga atgatggacg 350  
 cattgacgcg caggagatca tgcagtcctt gcgggacttg ggagtcaaga 400  
 tatctgaaca gcaggcagaa aaaatttctca agagcatgga taaaaacggc 450  
 acgatgacca tcgactggaa cgagtggaga gactaccacc tcctccaccc 500  
 cgtggaaaac atccccgaga tcatcctcta ctggaagcat tccacgatct 550  
 ttgatgtggg tgagaatcta acgggtcccgg atgagttcac agtggaggag 600  
 aggcagacgg ggatgtggtg gagacacctg gtggcaggag gtggggcagg 650  
 ggccgtatcc agaacctgca cggccccctt ggacaggctc aagtggtctca 700  
 tgcaggtcca tgctcccgcc agcaacaaca tgggcatcgt tgggtggcttc 750







Gln	Ala	Gln	Ala	Ser	Ile	Glu	Gly	Ala	Pro	Glu	Val	Thr	Met	Ser	
				410					415					420	
Ser	Leu	Phe	Lys	His	Ile	Leu	Arg	Thr	Glu	Gly	Ala	Phe	Gly	Leu	
				425					430					435	
Tyr	Arg	Gly	Leu	Ala	Pro	Asn	Phe	Met	Lys	Val	Ile	Pro	Ala	Val	
				440					445					450	
Ser	Ile	Ser	Tyr	Val	Val	Tyr	Glu	Asn	Leu	Lys	Ile	Thr	Leu	Gly	
				455					460					465	

Val Gln Ser Arg

<210> 290  
 <211> 1658  
 <212> DNA  
 <213> Homo sapiens

<400> 290  
 ggaaggcagc ggcagctcca ctcagccagt acccagatac gctgggaacc 50  
 ttccccagcc atggcttccc tggggcagat cctcttctgg agcataatta 100  
 gcatcatcat tattctggct ggagcaattg cactcatcat tggctttggt 150  
 atttcaggga gacactccat cacagtcact actgtcgcct cagctgggaa 200  
 cattgggggag gatggaatcc tgagctgcac ttttgaacct gacatcaaac 250  
 tttctgatat cgtgatacaa tggctgaagg aagggtgtttt aggcttggtc 300  
 catgagttca aagaaggcaa agatgagctg tcggagcagg atgaaatgtt 350  
 cagaggccgg acagcagtgt ttgctgatca agtgatagtt ggcaatgcct 400  
 ctttgccggt gaaaaacgtg caactcacag atgctggcac ctacaaatgt 450  
 tatatcatca cttctaaagg caagggaat gctaaccctg agtataaaac 500  
 tggagccttc agcatgccgg aagtgaatgt ggactataat gccagctcag 550  
 agaccttgcg gtgtgaggct ccccgatggt tccccagcc cacagtggtc 600  
 tgggcatccc aagttgacca gggagccaac ttctcggaag tctccaatac 650  
 cagctttgag ctgaactctg agaatgtgac catgaagggt gtgtctgtgc 700  
 tctacaatgt tacgatcaac aacacatact cctgtatgat tgaaaatgac 750  
 attgccaaag caacagggga tatcaaagtg acagaatcgg agatcaaaag 800  
 gcggagtcac ctacagctgc taaactcaaa ggcttctctg tgtgtctctt 850  
 ctttctttgc catcagctgg gcacttctgc ctctcagccc ttacctgatg 900  
 ctaaaataat gtgccttggc cacaaaaaag catgcaaagt cattgttaca 950  
 acagggatct acagaactat ttcaccacca gatatgacct agttttatat 1000  
 ttctgggagg aaatgaattc atatctagaa gtctggagtg agcaaacaag 1050

agcaagaaac aaaaagaagc caaaagcaga aggctccaat atgaacaaga 1100  
 taaatctatc ttcaaagaca tattagaagt tgggaaaata attcatgtga 1150  
 actagacaag tgtgttaaga gtgataagta aaatgcacgt ggagacaagt 1200  
 gcatccccag atctcaggga cctccccctg cctgtcacct ggggagtga 1250  
 aggacaggat agtgcattgt ctttgtctct gaatttttag ttatatgtgc 1300  
 tgtaatgttg ctctgaggaa gcccttgaa agtctatccc aacatatcca 1350  
 catcttatat tccacaaatt aagctgtagt atgtacccta agacgtgct 1400  
 aattgactgc cacttcgcaa ctcagggcg gctgcatttt agtaatgggt 1450  
 caaatgattc actttttatg atgcttccaa aggtgccttg gcttctcttc 1500  
 ccaactgaca aatgccaaag ttgagaaaaa tgatcataat tttagcataa 1550  
 acagagcagt cggggacacc gattttataa ataaactgag caccttcttt 1600  
 ttaaacaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
 aaaaaaaaa 1658

<210> 291  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 291  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile  
 1 5 10 15  
 Ile Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly  
 20 25 30  
 Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala  
 35 40 45  
 Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro  
 50 55 60  
 Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly  
 65 70 75  
 Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu  
 80 85 90  
 Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala  
 95 100 105  
 Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
 110 115 120  
 Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser  
 125 130 135  
 Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe  
 140 145 150  
 Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr



155	160	165
Leu Arg Cys Glu Ala Pro Arg Trp Phe	Pro Gln Pro Thr Val Val	
170	175	180
Trp Ala Ser Gln Val Asp Gln Gly Ala	Asn Phe Ser Glu Val Ser	
185	190	195
Asn Thr Ser Phe Glu Leu Asn Ser Glu	Asn Val Thr Met Lys Val	
200	205	210
Val Ser Val Leu Tyr Asn Val Thr Ile	Asn Asn Thr Tyr Ser Cys	
215	220	225
Met Ile Glu Asn Asp Ile Ala Lys Ala	Thr Gly Asp Ile Lys Val	
230	235	240
Thr Glu Ser Glu Ile Lys Arg Arg Ser	His Leu Gln Leu Leu Asn	
245	250	255
Ser Lys Ala Ser Leu Cys Val Ser Ser	Phe Phe Ala Ile Ser Trp	
260	265	270
Ala Leu Leu Pro Leu Ser Pro Tyr Leu	Met Leu Lys	
275	280	

<210> 292  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 292  
 gaatttgtag aagacagcgg cgttgccatg gcggcgtctc tggggcaggt 50  
 gttggctctg gtgctggtgg ccgctctgtg ggggtggcacg cagccgctgc 100  
 tgaagcgggc ctccgccggc ctgcagcggg ttcattgagcc gacctggggc 150  
 cagcagttgc tacaggagat gaagaccctc ttcttgaata ctgagtacct 200  
 gatgcccttt ctctcaacc agtgtggatc cttctctat tacctcacct 250  
 tggcatogac agatctgacc ctggctgtgc ccatctgtaa ctctctggct 300  
 atcatcttca cactgattgt tgggaaggcc cttggagaag atattggtgg 350  
 aaaacgtaag ttagactact gcgagtgcgg gacgcagctc tgtggatctc 400  
 gacatacctg tgttagttcc ttcccagaac ccatctcccc agagtgggtg 450  
 aggacacggc cttttcccat cctgcccttt cctctgcagc tgttttgctt 500  
 ccttgaggcc atcagagttc cttcccctg gacagtctgg agaaagacag 550  
 aggctggggg ttgggattga agaccagacc ccatctgagc ccttcctcca 600  
 gccctgtacc agctcctact ggcatggctg agctcagacc ctctgattt 650  
 ctgcctatta tcccaggagc agttgctggc atgggtgctca ccgtgatagg 700  
 aatttcactc tgcatcacia gctcagtgag taagaccag gggcaacagt 750  
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 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 293  
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 Gly Leu Gln Arg Val His Glu Pro Thr Trp Ala Gln Gln Leu Leu  
 35 40 45  
 Gln Glu Met Lys Thr Leu Phe Leu Asn Thr Glu Tyr Leu Met Pro  
 50 55 60  
 Phe Leu Leu Asn Gln Cys Gly Ser Leu Leu Tyr Tyr Leu Thr Leu  
 65 70 75  
 Ala Ser Thr Asp Leu Thr Leu Ala Val Pro Ile Cys Asn Ser Leu  
 80 85 90  
 Ala Ile Ile Phe Thr Leu Ile Val Gly Lys Ala Leu Gly Glu Asp  
 95 100 105  
 Ile Gly Gly Lys Arg Lys Leu Asp Tyr Cys Glu Cys Gly Thr Gln  
 110 115 120  
 Leu Cys Gly Ser Arg His Thr Cys Val Ser Ser Phe Pro Glu Pro  
 125 130 135  
 Ile Ser Pro Glu Trp Val Arg Thr Arg Pro Phe Pro Ile Leu Pro  
 140 145 150

Phe	Pro	Leu	Gln	Leu	Phe	Cys	Phe	Leu	Val	Ala	Ile	Arg	Val	Pro
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Phe	Pro	Trp	Thr	Val	Trp	Arg	Lys	Thr	Glu	Ala	Gly	Val	Trp	Asp
				170					175					180

<210> 294  
 <211> 1164  
 <212> DNA  
 <213> Homo sapiens

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 ccccatcctt gggagaagtc agctccagca ccatgaagg catcctcggt 250  
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<210> 295  
 <211> 237  
 <212> PRT

<213> Homo sapiens

<400> 295

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20 25 30  
Ser Cys Val Asn Ser Ile Ala Ser Glu Cys Pro Ser His Ala Asn  
35 40 45  
Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro  
50 55 60  
Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser  
65 70 75  
Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu  
80 85 90  
Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys  
95 100 105  
Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser  
110 115 120  
Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser  
125 130 135  
Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val  
140 145 150  
Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu  
155 160 165  
Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe  
170 175 180  
Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys  
185 190 195  
Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro  
200 205 210  
Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu  
215 220 225  
Ala Leu Ala Ser Leu Leu Leu Arg Gly Leu Leu Pro  
230 235

<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

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ccagcccat ggtccccgcc gccggcgcgc tgetgtgggt cctgctgctg 150

aatctgggtc cccggggggc gggggcccaa ggcctgacct agactccgac 200  
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<210> 297  
<211> 341  
<212> PRT  
<213> Homo sapiens

<400> 297  
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Thr Glu Met Gln Arg Val Ser Leu Arg Phe Gly Gly Pro Met Thr  
35 40 45  
Arg Ser Tyr Arg Ser Thr Ala Arg Thr Gly Leu Pro Arg Lys Thr  
50 55 60  
Arg Ile Ile Leu Glu Asp Glu Asn Asp Ala Met Ala Asp Ala Asp

65										70					75				
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Leu	Ala	Ala	Thr	Val				
				80					85						90				
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly					
				95					100					105					
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr					
				110					115					120					
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser					
				125					130					135					
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu					
				140					145					150					
Thr	Ser	Ser	Leu	Pro	Arg	Ser	Pro	Gly	Arg	Ser	Thr	Glu	Asp	Leu					
				155					160					165					
Pro	Gly	Ser	Gln	Ala	Thr	Leu	Ser	Gln	Trp	Ser	Thr	Pro	Gly	Ser					
				170					175					180					
Thr	Pro	Ser	Arg	Trp	Pro	Ser	Pro	Ser	Pro	Thr	Ala	Met	Pro	Ser					
				185					190					195					
Pro	Glu	Asp	Leu	Arg	Leu	Val	Leu	Met	Pro	Trp	Gly	Pro	Trp	His					
				200					205					210					
Cys	His	Cys	Lys	Ser	Gly	Thr	Met	Ser	Arg	Ser	Arg	Ser	Gly	Lys					
				215					220					225					
Leu	His	Gly	Leu	Ser	Gly	Arg	Leu	Arg	Val	Gly	Ala	Leu	Ser	Gln					
				230					235					240					
Leu	Arg	Thr	Glu	His	Lys	Pro	Cys	Thr	Tyr	Gln	Gln	Cys	Pro	Cys					
				245					250					255					
Asn	Arg	Leu	Arg	Glu	Glu	Cys	Pro	Leu	Asp	Thr	Ser	Leu	Cys	Thr					
				260					265					270					
Asp	Thr	Asn	Cys	Ala	Ser	Gln	Ser	Thr	Thr	Ser	Thr	Arg	Thr	Thr					
				275					280					285					
Thr	Thr	Pro	Phe	Pro	Thr	Ile	His	Leu	Arg	Ser	Ser	Pro	Ser	Leu					
				290					295					300					
Pro	Pro	Ala	Ser	Pro	Cys	Pro	Ala	Leu	Ala	Phe	Trp	Lys	Arg	Val					
				305					310					315					
Arg	Ile	Gly	Leu	Glu	Asp	Ile	Trp	Asn	Ser	Leu	Ser	Ser	Val	Phe					
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Thr	Glu	Met	Gln	Pro	Ile	Asp	Arg	Asn	Gln	Arg									
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<210> 298

<211> 2692

<212> DNA

<213> Homo sapiens

<400> 298

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<210> 299

<211> 320

<212> PRT

<213> Homo sapiens

<400> 299

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				20					25					30
Asp	Cys	Val	Leu	Gln	Cys	Glu	Glu	Gln	Asn	Cys	Ser	Gly	Gly	Ala
				35					40					45
Leu	Asn	His	Phe	Arg	Ser	Arg	Gln	Pro	Ile	Tyr	Met	Ser	Leu	Ala
				50					55					60
Gly	Trp	Thr	Cys	Arg	Asp	Asp	Cys	Lys	Tyr	Glu	Cys	Met	Trp	Val
				65					70					75





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<210> 301

<211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 301

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Ser	His	Gln	Asn	Leu	Lys	Glu	Phe	Ala	Leu	Thr	Asn	Pro	Glu	Lys	35	40	45	
Ser	Ser	Thr	Lys	Glu	Thr	Glu	Arg	Lys	Glu	Thr	Lys	Ala	Glu	Glu	50	55	60	
Glu	Leu	Asp	Ala	Glu	Val	Leu	Glu	Val	Phe	His	Pro	Thr	His	Glu	65	70	75	
Trp	Gln	Ala	Leu	Gln	Pro	Gly	Gln	Ala	Val	Pro	Ala	Gly	Ser	His	80	85	90	
Val	Arg	Leu	Asn	Leu	Gln	Thr	Gly	Glu	Arg	Glu	Ala	Lys	Leu	Gln	95	100	105	
Tyr	Glu	Asp	Lys	Phe	Arg	Asn	Asn	Leu	Lys	Gly	Lys	Arg	Leu	Asp	110	115	120	
Ile	Asn	Thr	Asn	Thr	Tyr	Thr	Ser	Gln	Asp	Leu	Lys	Ser	Ala	Leu	125	130	135	
Ala	Lys	Phe	Lys	Glu	Gly	Ala	Glu	Met	Glu	Ser	Ser	Lys	Glu	Asp	140	145	150	
Lys	Ala	Arg	Gln	Ala	Glu	Val	Lys	Arg	Leu	Phe	Arg	Pro	Ile	Glu	155	160	165	
Glu	Leu	Lys	Lys	Asp	Phe	Asp	Glu	Leu	Asn	Val	Val	Ile	Glu	Thr	170	175	180	
Asp	Met	Gln	Ile	Met	Val	Arg	Leu	Ile	Asn	Lys	Phe	Asn	Ser	Ser	185	190	195	
Ser	Ser	Ser	Leu	Glu	Glu	Lys	Ile	Ala	Ala	Leu	Phe	Asp	Leu	Glu	200	205	210	
Tyr	Tyr	Val	His	Gln	Met	Asp	Asn	Ala	Gln	Asp	Leu	Leu	Ser	Phe	215	220	225	
Gly	Gly	Leu	Gln	Val	Val	Ile	Asn	Gly	Leu	Asn	Ser	Thr	Glu	Pro	230	235	240	
Leu	Val	Lys	Glu	Tyr	Ala	Ala	Phe	Val	Leu	Gly	Ala	Ala	Phe	Ser	245	250	255	
Ser	Asn	Pro	Lys	Val	Gln	Val	Glu	Ala	Ile	Glu	Gly	Gly	Ala	Leu	260	265	270	
Gln	Lys	Leu	Leu	Val	Ile	Leu	Ala	Thr	Glu	Gln	Pro	Leu	Thr	Ala	275	280	285	
Lys	Lys	Lys	Val	Leu	Phe	Ala	Leu	Cys	Ser	Leu	Leu	Arg	His	Phe				



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tgagcccagc ccagcccgg gtccattgcc cacattctct gtctccttct 1050  
cgtcggtcta cccactacc tccagggttt tgctttgtcc ttttgtgacc 1100  
gttagtctct aagctttacc aggagcagcc tgggttcagc cagtcaagtga 1150  
ctgggtgggtt tgaatctgca cttatcccca ccacctgggg acccccttgt 1200  
tgtgtccagg actccccctg tgtcagtgt ctgctctcac cctgcccaag 1250  
actcacctcc cttccccctc gcaggccgac ggcaggagga cagtccgggtg 1300  
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ggggaccctt gggcctgggg tgccctcctg atgtcctcgc cctgtatttc 1400  
tccatctcca gttctggaca gtgcagggtt ccaagaaaag ggacctagtt 1450  
tagccattgc cctggagatg aaattaatgg aggctcaagg atagatgagc 1500  
tctgagtttc tcagtactcc ctcaagactg gacatcttgg tctttttctc 1550  
aggcctgagg gggaaccatt tttggtgtga taaataccct aaactgcctt 1600  
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aagtgcattg ttgggaactg gcattactgg aactaatggt ttaacctcc 1800  
ttaaccacca gcatccctcc tctccccaag gtgaagtgga gggtgctgtg 1850  
gtgagctggc cactccagag ctgcagtgcc actggaggag tcagactacc 1900  
atgacatcgt agggaaggag gggagatttt tttgtagttt ttaattgggg 1950  
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ggtggagtgt cccatccttt taatcaaggt gattgtgatt ttgactaata 2050  
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2136

<210> 303  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 303  
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 Pro Ala Phe Ala Leu Phe Leu Ile Thr Val Ala Gly Asp Pro Leu  
 20 25 30  
 Arg Val Ile Ile Leu Val Ala Gly Ala Phe Phe Trp Leu Val Ser  
 35 40 45  
 Leu Leu Leu Ala Ser Val Val Trp Phe Ile Leu Val His Val Thr  
 50 55 60  
 Asp Arg Ser Asp Ala Arg Leu Gln Tyr Gly Leu Leu Ile Phe Gly  
 65 70 75  
 Ala Ala Val Ser Val Leu Leu Gln Glu Val Phe Arg Phe Ala Tyr  
 80 85 90  
 Tyr Lys Leu Leu Lys Lys Ala Asp Glu Gly Leu Ala Ser Leu Ser  
 95 100 105  
 Glu Asp Gly Arg Ser Pro Ile Ser Ile Arg Gln Met Ala Tyr Val  
 110 115 120  
 Ser Gly Leu Ser Phe Gly Ile Ile Ser Gly Val Phe Ser Val Ile  
 125 130 135  
 Asn Ile Leu Ala Asp Ala Leu Gly Pro Gly Val Val Gly Ile His  
 140 145 150  
 Gly Asp Ser Pro Tyr Tyr Phe Leu Thr Ser Ala Phe Leu Thr Ala  
 155 160 165  
 Ala Ile Ile Leu Leu His Thr Phe Trp Gly Val Val Phe Phe Asp  
 170 175 180  
 Ala Cys Glu Arg Arg Arg Tyr Trp Ala Leu Gly Leu Val Val Gly  
 185 190 195  
 Ser His Leu Leu Thr Ser Gly Leu Thr Phe Leu Asn Pro Trp Tyr  
 200 205 210  
 Glu Ala Ser Leu Leu Pro Ile Tyr Ala Val Thr Val Ser Met Gly  
 215 220 225  
 Leu Trp Ala Phe Ile Thr Ala Gly Gly Ser Leu Arg Ser Ile Gln  
 230 235 240  
 Arg Ser Leu Leu Cys Lys Asp  
 245

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
<222> 108, 123, 126, 154, 198, 206, 217  
<223> unknown base

<400> 304  
aagctggttt aaggaagcag aggagggtta gattcgttga gtgaggacgg 50  
aagatcaacc catttccatt ccgccagatg gcctatgttt ctggtctctc 100  
ccttcggnat catcagtggg gtnttntctg ttatcaatat tttggctgat 150  
gcanttgggc caggtgtggg tgggatccat ggagactcac cctattantt 200  
cctganttca gccttntga cagcagccat taccctgctc 240

<210> 305  
<211> 378  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
<223> unknown base

<400> 305  
gaccgaccgt tcagatgccg ggttcagta cggcttcctg atttttggtg 50  
ctgctgtntc tgtccttcta caggaggtgt tccgctttgc ctantacaag 100  
ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
atcacccatt tccatccgcc agatggccta tgtttntggt ntttccttcg 200  
gtatcatcag tgggtgtttt tctgttatca atattttggn tgatgcantt 250  
gggccaggtg tgggtgggat ccatggagan tcaccctatt aattcctgaa 300  
ttcagccttt ntgacagcag ccattatcct gntccatacc ttttggggag 350  
ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
<211> 655  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 1, 22, 129, 133, 184  
<223> unknown base

<400> 306  
ngttggagaa gtggcgcgga cnttcatttg gggtttcggt tccccccctt 50  
tccctttccc cggggtctgg ggtgacattg cacgggcccc tcgtgggggc 100  
gcgttgccac cccacgcgga ctccccagnt ggngcgccct tcccatttgc 150  
ctgtcctggt caggccccca ccccccttcc cacntgacca gccatggggg 200  
ctgcggtgtt tttcggctgc actttogtgc cgttcggccc ggccttcgcg 250

cttttcttga tcaactgtggc tggggacccg cttcgcgtta tcatcctggt 300  
 cgcaggggca tttttctggc tgggtctccct gctcctggcc tctgtggtct 350  
 ggttcatctt ggtccatgtg accgaccggt cagatgcccg gctccagtac 400  
 ggccctcctga tttttggtgc tgctgtctct gtccttctac aggaggtgtt 450  
 ccgctttgcc tactacaagc tgcttaagaa ggcagatgag gggttagcat 500  
 cgctgagtga ggacggaaga taccatctt ccatccgcc gatggcctat 550  
 gtttctggtc tctccttcgg tatcatcagt ggtgtcttct ctgttatcaa 600  
 tattttggct gatgcacttg ggccaggtgt ggttgggatc catggagact 650  
 ccccc 655

<210> 307  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 52, 89, 128  
 <223> unknown base

<400> 307  
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 cnttccccgg ggtctggggg tgacattgca ccgcgccct cgtggggtcg 100  
 cgttgccacc ccacgcggaac tccccagntg gcgcgccct cccatttgcc 150  
 tgtcctggtc agggccccac cccccttccc acctgaccag ccatgggggc 200  
 tgoggtgttt ttggggctgc actttcgtcg cgttcgggcc cggccttcgc 250  
 gcttttcttg atcaactgtg ctggggaccc gcttcgcgtt atcatcctgg 300  
 tcgcaggggc atttttctgg ctgggtctccc tgctcctggc ctctgtggtc 350  
 tggttcatct tgggtccatgt gaccgaccgg tcagatgcc ggctccagta 400  
 cggcctcctg atttttggtg ctgctgtctc tgccttcta caggaggtgt 450  
 tccgctttgc ctactacaag ctgcttaaga aggcagatga ggggttagca 500  
 tcgctgagtg aggacggaag atcaccatc tccatccgcc agatggccta 550  
 tgtttctggt ctctccttcg gtatcatcag tgggtgtctt tctgttatca 600  
 atatatttggc tgatgcactt gggccaggtg tggttgggat ccatggagac 650

<210> 308  
 <211> 1570  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
 gccccagga gcagtgggtg gttataactc agggccggtg cccagagccc 50



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 gctgggagca aatccccac cccctacctg ggggacagg caagtgagac 150  
 ctggtgaggg tggctcagca ggcagggaag gagaggtgtc tgtgcgtcct 200  
 gcaccacat ctttctctgt cccctccttg ccctgtctgg aggtgtctag 250  
 actcctatct tctgaattct atagtgcctg ggtctcagcg cagtgccgat 300  
 ggtggcccg ccttgtggtt cctctctacc tggggaaata aggtgcagcg 350  
 gccatggcta cagcaagacc cccctggatg tgggtgctct gtgctctgat 400  
 cacagccttg cttctggggg tcacagagca tgttctcgcc aacaatgatg 450  
 tttcctgtga ccacccctct aacaccgtgc cctctgggag caaccaggac 500  
 ctgggagctg gggccgggga agacgcccgg tcggatgaca gcagcagccg 550  
 catcatcaat ggatccgact gcgatatgca caccagccg tggcaggccg 600  
 cgctgttgct aaggcccaac cagctctact gcggggcggt gttggtgcat 650  
 ccacagtggc tgctcaoggc cgcccactgc aggaagaaag ttttcagagt 700  
 ccgtctcggc cactactccc tgtcaccagt ttatgaatct gggcagcaga 750  
 tgttccaggg ggtcaaatcc atccccacc ctggctactc ccaccctggc 800  
 cactctaacg acctcatgct catcaaactg aacagaagaa ttcgtccac 850  
 taaagatgtc agaccatca acgtctctc tcattgtccc tctgctggga 900  
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 gtgcgaggat gcttaccoga gacagataga tgacaccatg ttctgcgccg 1050  
 gtgacaaagc aggtagagac tcctgccagg gtgattctgg ggggcctgtg 1100  
 gtctgcaatg gctccctgca gggactcgtg tcctggggag attacccttg 1150  
 tgcccgccc aacagaccgg gtgtctacac gaacctctgc aagttacca 1200  
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 agcacaccgg catccccacc tgctgcaggg acagccctga cactcctttc 1300  
 agaccctcat tccttcccag agatgttgag aatgttcac tctccagccc 1350  
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 accgtgtctc tctagttgaa ccctgggaac aatttccaaa actgtccagg 1450  
 gcgggggttg cgtctcaatc tcctggggc actttcatcc tcaagctcag 1500  
 ggcccatccc ttctctgcag ctctgaccca aatttagtcc cagaaataaa 1550  
 ctgagaagtg gaaaaaaaaa 1570

<210> 309

<211> 293  
 <212> PRT  
 <213> Homo sapiens

<400> 309

Met	Ala	Thr	Ala	Arg	Pro	Pro	Trp	Met	Trp	Val	Leu	Cys	Ala	Leu	1	5	10	15
Ile	Thr	Ala	Leu	Leu	Leu	Gly	Val	Thr	Glu	His	Val	Leu	Ala	Asn	20	25	30	
Asn	Asp	Val	Ser	Cys	Asp	His	Pro	Ser	Asn	Thr	Val	Pro	Ser	Gly	35	40	45	
Ser	Asn	Gln	Asp	Leu	Gly	Ala	Gly	Ala	Gly	Glu	Asp	Ala	Arg	Ser	50	55	60	
Asp	Asp	Ser	Ser	Ser	Arg	Ile	Ile	Asn	Gly	Ser	Asp	Cys	Asp	Met	65	70	75	
His	Thr	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Leu	Leu	Arg	Pro	Asn	Gln	80	85	90	
Leu	Tyr	Cys	Gly	Ala	Val	Leu	Val	His	Pro	Gln	Trp	Leu	Leu	Thr	95	100	105	
Ala	Ala	His	Cys	Arg	Lys	Lys	Val	Phe	Arg	Val	Arg	Leu	Gly	His	110	115	120	
Tyr	Ser	Leu	Ser	Pro	Val	Tyr	Glu	Ser	Gly	Gln	Gln	Met	Phe	Gln	125	130	135	
Gly	Val	Lys	Ser	Ile	Pro	His	Pro	Gly	Tyr	Ser	His	Pro	Gly	His	140	145	150	
Ser	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asn	Arg	Arg	Ile	Arg	Pro	155	160	165	
Thr	Lys	Asp	Val	Arg	Pro	Ile	Asn	Val	Ser	Ser	His	Cys	Pro	Ser	170	175	180	
Ala	Gly	Thr	Lys	Cys	Leu	Val	Ser	Gly	Trp	Gly	Thr	Thr	Lys	Ser	185	190	195	
Pro	Gln	Val	His	Phe	Pro	Lys	Val	Leu	Gln	Cys	Leu	Asn	Ile	Ser	200	205	210	
Val	Leu	Ser	Gln	Lys	Arg	Cys	Glu	Asp	Ala	Tyr	Pro	Arg	Gln	Ile	215	220	225	
Asp	Asp	Thr	Met	Phe	Cys	Ala	Gly	Asp	Lys	Ala	Gly	Arg	Asp	Ser	230	235	240	
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Val	Val	Cys	Asn	Gly	Ser	Leu	245	250	255	
Gln	Gly	Leu	Val	Ser	Trp	Gly	Asp	Tyr	Pro	Cys	Ala	Arg	Pro	Asn	260	265	270	
Arg	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Lys	Trp	Ile	275	280	285	
Gln	Glu	Thr	Ile	Gln	Ala	Asn	Ser											

<210> 310  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 310  
 tcctgtgacc acccctctaa cacc 24

<210> 311  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 311  
 ctggaacatc tgctgcccag attc 24

<210> 312  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 312  
 gtcggatgac agcagcagcc gcatcatcaa tggatccgac tgcgatatgc 50

<210> 313  
 <211> 3010  
 <212> DNA  
 <213> Homo sapiens

<400> 313  
 atgggtcaacg accggtggaa gaccatgggc ggcgctgccc aacttgagga 50  
 ccggccgcgc gacaagccgc agcggccgag ctgcggctac gtgctgtgca 100  
 ccgtgctgct ggccctggct gtgctgctgg ctgtagctgt caccggtgcc 150  
 gtgctcttcc tgaaccacgc ccacgcgccg ggcacggcgc cccacactgt 200  
 cgtcagcact ggggctgcca gcgccaacag cgccctggtc actgtggaaa 250  
 gggcggacag ctgcacctc agcatcctca ttgacccgcg ctgccccgac 300  
 ctcaccgaca gcttcgcacg cctggagagc gccaggcct cgggtgctgca 350  
 ggcgctgaca gagcaccagg ccagccacg gctggtgggc gaccaggagc 400  
 aggagctgct ggacacgctg gccgaccagc tgccccggct gctggcccga 450  
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 gctgggccag ggcctcagcg ccctgcagag tgagcagggc cgcctcatcc 550



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 cacatgcaga ggtgagacct gcaggctccc aggaccagca gccacaagg 2650  
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 caggtgccta ggggggtgtg ggttcggttc tcccttccc tccactgaa 2900  
 gtttgtgctt aaaaaacaat aaatttgact tggcaccact gggggttgg 2950  
 gggagaggcc gtgtgacctg gctctctgtc ccagtgccac caggtcatcc 3000  
 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
 Met Val Asn Asp Arg Trp Lys Thr Met Gly Gly Ala Ala Gln Leu  
 1 5 10 15  
 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
 20 25 30  
 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
 35 40 45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
 50 55 60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
 65 70 75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
 80 85 90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
 95 100 105



Gly	Gln	Tyr	Leu	Arg	Gly	Ala	His	Ala	Ser	Tyr	Ala	Asp	Gly	Val
				425					430					435
Glu	Trp	Ser	Ser	Trp	Thr	Gly	Trp	Gln	Tyr	Ser	Leu	Lys	Phe	Ser
				440					445					450
Glu	Met	Lys	Ile	Arg	Pro	Val	Arg	Glu	Asp	Arg				
				455					460					

<210> 315  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 315  
 cacacgtcca acctcaatgg gcag 24

<210> 316  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 316  
 gaccagcagg gccaaaggaca agg 23

<210> 317  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 317  
 gttctctgag atgaagatcc ggccgggtccg ggagtaccgc ttag 44

<210> 318  
 <211> 1841  
 <212> DNA  
 <213> Homo sapiens

<400> 318  
 gcagtcagag acttccccctg cccctcgctg ggaaagaaca ttaggaatgc 50  
 ctttttagtg cttgcttcct gaactagctc acagtagccc ggcggcccag 100  
 ggcaatccga ccacatttca ctctaccgc ttaggaatc cagatgcagg 150  
 ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
 atgagcctgc attctcaagc ctctgccaca actcggcatc cagagccccg 250  
 gcgcacagag cacagggtc cctcttcaac gtggcgacca gtggccctga 300  
 ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
 cttttgtttt ttcagtacta ccagctctcc aatactggc aagacacccat 400

ttctcaaagt gaagaaagat taggaaatac gtcccaagag ttgcaatctc 450  
 ttcaagtcca gaatataaag cttgcaggaa gtctgcagca tgtggctgaa 500  
 aaactctgtc gtgagctgta taacaaagct ggagcacaca ggtgcagccc 550  
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 aagacagcaa aagttgggag gactgtaaat atttctgcct tagtgaaaac 650  
 tctaccatgc tgaagataaa caaacaagaa gacctggaat ttgccgcgtc 700  
 tcagagctac tctgagtttt tctactctta ttggacaggg cttttgcgcc 750  
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 gaactgttcc atattataat agatgtcacc agcccaagaa gcagagactg 850  
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 catgtccccc ctgaaacatt aggcgaaggt gactgattcg ccctctgcaa 1000  
 ctacaaatag cagagtgagc caggcgggtgc caaagcaagg gctagttgag 1050  
 acattgggaa atggaacata atcaggaaag actatctctc tgactagtac 1100  
 aaaatggggt ctctgttttc ctgttcagga tcaccagcat ttctgagctt 1150  
 gggtttatgc acgtatttaa cagtcacaag aagtcttatt tacatgccac 1200  
 caaccaacct cagaaaccca taatgtcacc tgccctcttg gcttagagat 1250  
 aacttttagc tctctttctt ctcaatgtct aatatcacct ccctgttttc 1300  
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 tacattgagg taacatcctt ttctctgaca gtcaagtagt ccatcagaaa 1400  
 ttggcagtca cttccagat tgtaccagca aatacacaag gaattctttt 1450  
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 aatctcaaat ctcaatgcct tataagcatt ccttctctgtg tccattaaga 1600  
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 gagagattaa agaccagaaa aaagttagcc tcttcatotg cacctgtaat 1750  
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 actgaagatt taataataat aaatgtaaat actgtgaaaa a 1841

<210> 319  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens



<400> 319

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Gly	Asp	Thr	Thr	Met	Ser	Leu	His	Ser	Gln	Ala	Ser	Ala	Thr	Thr
				20					25					30
Arg	His	Pro	Glu	Pro	Arg	Arg	Thr	Glu	His	Arg	Ala	Pro	Ser	Ser
				35					40					45
Thr	Trp	Arg	Pro	Val	Ala	Leu	Thr	Leu	Leu	Thr	Leu	Cys	Leu	Val
				50					55					60
Leu	Leu	Ile	Gly	Leu	Ala	Ala	Leu	Gly	Leu	Leu	Phe	Phe	Gln	Tyr
				65					70					75
Tyr	Gln	Leu	Ser	Asn	Thr	Gly	Gln	Asp	Thr	Ile	Ser	Gln	Met	Glu
				80					85					90
Glu	Arg	Leu	Gly	Asn	Thr	Ser	Gln	Glu	Leu	Gln	Ser	Leu	Gln	Val
				95					100					105
Gln	Asn	Ile	Lys	Leu	Ala	Gly	Ser	Leu	Gln	His	Val	Ala	Glu	Lys
				110					115					120
Leu	Cys	Arg	Glu	Leu	Tyr	Asn	Lys	Ala	Gly	Ala	His	Arg	Cys	Ser
				125					130					135
Pro	Cys	Thr	Glu	Gln	Trp	Lys	Trp	His	Gly	Asp	Asn	Cys	Tyr	Gln
				140					145					150
Phe	Tyr	Lys	Asp	Ser	Lys	Ser	Trp	Glu	Asp	Cys	Lys	Tyr	Phe	Cys
				155					160					165
Leu	Ser	Glu	Asn	Ser	Thr	Met	Leu	Lys	Ile	Asn	Lys	Gln	Glu	Asp
				170					175					180
Leu	Glu	Phe	Ala	Ala	Ser	Gln	Ser	Tyr	Ser	Glu	Phe	Phe	Tyr	Ser
				185					190					195
Tyr	Trp	Thr	Gly	Leu	Leu	Arg	Pro	Asp	Ser	Gly	Lys	Ala	Trp	Leu
				200					205					210
Trp	Met	Asp	Gly	Thr	Pro	Phe	Thr	Ser	Glu	Leu	Phe	His	Ile	Ile
				215					220					225
Ile	Asp	Val	Thr	Ser	Pro	Arg	Ser	Arg	Asp	Cys	Val	Ala	Ile	Leu
				230					235					240
Asn	Gly	Met	Ile	Phe	Ser	Lys	Asp	Cys	Lys	Glu	Leu	Lys	Arg	Cys
				245					250					255
Val	Cys	Glu	Arg	Arg	Ala	Gly	Met	Val	Lys	Pro	Glu	Ser	Leu	His
				260					265					270
Val	Pro	Pro	Glu	Thr	Leu	Gly	Glu	Gly	Asp					
				275					280					

<210> 320

<211> 468

<212> DNA

<213> Homo sapiens

<220>  
 <221> unsure  
 <222> 59, 95, 149, 331, 364, 438, 446  
 <223> unknown base

<400> 320  
 aattttcacc gctgtaggaa tccagatgca ggccaagtac agcagcacga 50  
 gggacatgnt ggatgatgat gggacaccac catgagcctg cattntcaag 100  
 cttttgccac aattcggcat ccagagcccc ggcgcacaga gcacagggnt 150  
 cctttttcaa cgtggcgacc agtggccctg accctgctga ctttgtgctt 200  
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 ttaggaaata cgtoccaaaga gttgcaattt nttcaagtcc agaataataa 350  
 gcttgcagga agtntgcagc atgtggctga aaaactctgt cgtgagctgt 400  
 ataacaaagc tggaggaact ttgaaggagg gcaaagtntc ctcatntact 450  
 atacacacac cacttccc 468

<210> 321  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 321  
 atgcaggcca agtacagcag cac 23

<210> 322  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 322  
 catgctgacg acttctctgca agc 23

<210> 323  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 323  
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<210> 324  
 <211> 40  
 <212> DNA  
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<220>  
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<400> 324  
atgctggatg atgatgggga caccaccatg agcctgcatt 40

<210> 325  
<211> 2988  
<212> DNA  
<213> Homo sapiens

<400> 325  
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gaggcgcggc tccggggatt cggctcgggc cgctggctct gctctgcggg 100  
gagggagcgg gcccgcccgc ggggcccag cctccggat ccgccccctc 150  
cccggtcccg ccccctcgga gactcctctg gctgctctgg gggttcgccg 200  
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ggcgcgccgg cccaactcgg tgcagcccgg agcggagcgc gagaagcccg 450  
gggcccggga aggcgcgggg gagaattggg agccgcgcgt cttgccctac 500  
caccctgcac agcccggcca ggccgcaaaa aaggccgtca ggacccgcta 550  
catcagcacg gagctgggca tcaggcagag gctgctgggt gcggtgctga 600  
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gctccctgcc ttttaataaac tggccaagtg tggaaaaa 2988

<210> 326

<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

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Val	Ala	Val	Gly	Ile	Ser	Leu	Gly	Phe	Thr	Leu	Ser	Leu	Leu	Ser	
				20					25					30	
Val	Thr	Trp	Val	Glu	Glu	Pro	Cys	Gly	Pro	Gly	Pro	Pro	Gln	Pro	
				35					40					45	
Gly	Asp	Ser	Glu	Leu	Pro	Pro	Arg	Gly	Asn	Thr	Asn	Ala	Ala	Arg	
				50					55					60	
Arg	Pro	Asn	Ser	Val	Gln	Pro	Gly	Ala	Glu	Arg	Glu	Lys	Pro	Gly	
				65					70					75	
Ala	Gly	Glu	Gly	Ala	Gly	Glu	Asn	Trp	Glu	Pro	Arg	Val	Leu	Pro	
				80					85					90	
Tyr	His	Pro	Ala	Gln	Pro	Gly	Gln	Ala	Ala	Lys	Lys	Ala	Val	Arg	
				95					100					105	
Thr	Arg	Tyr	Ile	Ser	Thr	Glu	Leu	Gly	Ile	Arg	Gln	Arg	Leu	Leu	
				110					115					120	
Val	Ala	Val	Leu	Thr	Ser	Gln	Thr	Thr	Leu	Pro	Thr	Leu	Gly	Val	
				125					130					135	
Ala	Val	Asn	Arg	Thr	Leu	Gly	His	Arg	Leu	Glu	Arg	Val	Val	Phe	
				140					145					150	
Leu	Thr	Gly	Ala	Arg	Gly	Arg	Arg	Ala	Pro	Pro	Gly	Met	Ala	Val	
				155					160					165	
Val	Thr	Leu	Gly	Glu	Glu	Arg	Pro	Ile	Gly	His	Leu	His	Leu	Ala	
				170					175					180	
Leu	Arg	His	Leu	Leu	Glu	Gln	His	Gly	Asp	Asp	Phe	Asp	Trp	Phe	
				185					190					195	
Phe	Leu	Val	Pro	Asp	Thr	Thr	Tyr	Thr	Glu	Ala	His	Gly	Leu	Ala	
				200					205					210	
Arg	Leu	Thr	Gly	His	Leu	Ser	Leu	Ala	Ser	Ala	Ala	His	Leu	Tyr	
				215					220					225	
Leu	Gly	Arg	Pro	Gln	Asp	Phe	Ile	Gly	Gly	Glu	Pro	Thr	Pro	Gly	
				230					235					240	
Arg	Tyr	Cys	His	Gly	Gly	Phe	Gly	Val	Leu	Leu	Ser	Arg	Met	Leu	
				245					250					255	
Leu	Gln	Gln	Leu	Arg	Pro	His	Leu	Glu	Gly	Cys	Arg	Asn	Asp	Ile	
				260					265					270	



Ser	Val	Gln	Thr	Ala	Ala	Pro	Ser	Pro	Leu	Arg	Leu	Met	Asp	Leu
				590					595					600
Leu	Ser	Lys	Lys	His	Pro	Leu	Asp	Thr	Leu	Phe	Leu	Leu	Ala	Gly
				605					610					615
Pro	Asp	Thr	Val	Leu	Thr	Pro	Asp	Phe	Leu	Asn	Arg	Cys	Arg	Met
				620					625					630
His	Ala	Ile	Ser	Gly	Trp	Gln	Ala	Phe	Phe	Pro	Met	His	Phe	Gln
				635					640					645
Ala	Phe	His	Pro	Gly	Val	Ala	Pro	Pro	Gln	Gly	Pro	Gly	Pro	Pro
				650					655					660
Glu	Leu	Gly	Arg	Asp	Thr	Gly	Arg	Phe	Asp	Arg	Gln	Ala	Ala	Ser
				665					670					675
Glu	Ala	Cys	Phe	Tyr	Asn	Ser	Asp	Tyr	Val	Ala	Ala	Arg	Gly	Arg
				680					685					690
Leu	Ala	Ala	Ala	Ser	Glu	Gln	Glu	Glu	Glu	Leu	Leu	Glu	Ser	Leu
				695					700					705
Asp	Val	Tyr	Glu	Leu	Phe	Leu	His	Phe	Ser	Ser	Leu	His	Val	Leu
				710					715					720
Arg	Ala	Val	Glu	Pro	Ala	Leu	Leu	Gln	Arg	Tyr	Arg	Ala	Gln	Thr
				725					730					735
Cys	Ser	Ala	Arg	Leu	Ser	Glu	Asp	Leu	Tyr	His	Arg	Cys	Leu	Gln
				740					745					750
Ser	Val	Leu	Glu	Gly	Leu	Gly	Ser	Arg	Thr	Gln	Leu	Ala	Met	Leu
				755					760					765
Leu	Phe	Glu	Gln	Glu	Gln	Gly	Asn	Ser	Thr					
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<210> 327  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 327  
 tggaaggctg ccgcaacgac aatc 24

<210> 328  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 328  
 ctgatgtggc cgatgttctg 20

<210> 329  
 <211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 329  
atggctcagt gtgcagacag 20

<210> 330  
<211> 24  
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<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 330  
gcatgctgct ccgtgaagta gtcc 24

<210> 331  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 331  
atgcatggga aagaaggcct gccc 24

<210> 332  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 332  
tgcactggtg accacgaggg ggtgcactat agccatctgg agctgag 47

<210> 333  
<211> 1095  
<212> DNA  
<213> Homo sapiens

<400> 333  
gctctggccg gccccggcga ttggtcaccg cccgctaggg gacagccctg 50  
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gctcccctag tggagaaaag gagtagctat tagccaattc ggcagggccc 150  
gctttttaga agcttgattt cttttgaaga tgaaagacta gcggaagctc 200  
tgctcttttc ccagtgggc gagggaaactc ggggcgattg gctgggaact 250  
gtatccaccc aaatgtcacc gatttcttcc tatgcaggaa atgagcagac 300  
ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350  
gccacgacaa ctggaggcaa agagggttgc tcaacgcccc gcctcattgg 400



aaaaccaa at cagatctggg acctatatag cgtggcggag gcggggcgat 450  
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 ccgcccctga gaccctgcag caccatctgt catggcggct gggctgtttg 550  
 gtttgagcgc tcgcogtctt ttggcggcag cggcgacgcg agggctcccg 600  
 gccgcccgcg tccgctggga atctagcttc tccaggactg tggtcgcccc 650  
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 aggaccaga acccgaggac gaaaacttgt atgagaagaa cccagactcc 750  
 catggttatg acaaggaccc cgttttggac gtctggaaca tgcgacttgt 800  
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 ctgcttcgac ccagcaaga tccagctgcc agaggatgag tgaccagttg 1000  
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 tgacctcttc tcagagcacc taattaaagg ggctgaaagt ctgaa 1095

<210> 334  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 334  
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 Ala Ala Ala Thr Arg Gly Leu Pro Ala Ala Arg Val Arg Trp Glu  
 20 25 30  
 Ser Ser Phe Ser Arg Thr Val Val Ala Pro Ser Ala Val Ala Gly  
 35 40 45  
 Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu  
 50 55 60  
 Pro Glu Asp Glu Asn Leu Tyr Glu Lys Asn Pro Asp Ser His Gly  
 65 70 75  
 Tyr Asp Lys Asp Pro Val Leu Asp Val Trp Asn Met Arg Leu Val  
 80 85 90  
 Phe Phe Phe Gly Val Ser Ile Ile Leu Val Leu Gly Ser Thr Phe  
 95 100 105  
 Val Ala Tyr Leu Pro Asp Tyr Arg Met Lys Glu Trp Ser Arg Arg  
 110 115 120  
 Glu Ala Glu Arg Leu Val Lys Tyr Arg Glu Ala Asn Gly Leu Pro  
 125 130 135  
 Ile Met Glu Ser Asn Cys Phe Asp Pro Ser Lys Ile Gln Leu Pro  
 140 145 150

Glu Asp Glu

<210> 335  
<211> 442  
<212> DNA  
<213> Homo sapiens

<400> 335  
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aggactgtgg tcgccccgtc cgctgtggcg ggaaagcggc cccagaacc 150  
gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgatg 200  
agaagaaccc agactcccat ggttatgaca aggaccccg tttggacgtc 250  
tggaacatgc gacttgtctt cttctttggc gtctccatca tcctggtcct 300  
tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtgg 350  
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cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442

<210> 336  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 336  
ctgagaccct gcagcaccat ctg 23

<210> 337  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 337  
ggtgcttctt gagccccact tagc 24

<210> 338  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 338  
aatctagctt ctccaggact gtggtcgccc cgctccgctgt 40

<210> 339  
<211> 2162  
<212> DNA

<213> Homo sapiens

<400> 339

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tcataccccc gctgccttcc ggggacgtag ccgccacatt ccagttccgc 150  
acgcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200  
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ggccacctct atattgaggt gctcaataag caaaagtggc cgggtggctgc 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggtcggct 2050  
ggcagcactg gccaaggtga tgggggtgtgc tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaaaa aa 2162

<210> 340

<211> 574

<212> PRT

<213> Homo sapiens

<400> 340

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Val	Ile	Thr	Pro	Leu	Pro	Ser	Gly	Asp	Val	Ala	Ala	Thr	Phe	Gln	35	40	45	
Phe	Arg	Thr	Arg	Trp	Asp	Ser	Glu	Leu	Gln	Arg	Glu	Gly	Val	Ser	50	55	60	
His	Tyr	Arg	Leu	Phe	Pro	Lys	Ala	Leu	Gly	Gln	Leu	Ile	Ser	Lys	65	70	75	
Tyr	Ser	Leu	Arg	Glu	Leu	His	Leu	Ser	Phe	Thr	Gln	Gly	Phe	Trp	80	85	90	
Arg	Thr	Arg	Tyr	Trp	Gly	Pro	Pro	Phe	Leu	Gln	Ala	Pro	Ser	Gly	95	100	105	
Ala	Glu	Leu	Trp	Val	Trp	Phe	Gln	Asp	Thr	Val	Thr	Asp	Val	Asp	110	115	120	
Lys	Ser	Trp	Lys	Glu	Leu	Ser	Asn	Val	Leu	Ser	Gly	Ile	Phe	Cys	125	130	135	
Ala	Ser	Leu	Asn	Phe	Ile	Asp	Ser	Thr	Asn	Thr	Val	Thr	Pro	Thr	140	145	150	



Val	Leu	Ser	Ala	Leu	Val	Pro	Ser	Met	Val	Ala	Ala	Lys	Pro	Val	
				470					475					480	
Asp	Trp	Glu	Glu	Ser	Pro	Leu	Phe	Asn	Ser	Leu	Phe	Pro	Val	Ser	
				485					490					495	
Asp	Gly	Ser	Asn	Tyr	Phe	Val	Arg	Leu	Tyr	Thr	Glu	Pro	Leu	Leu	
				500					505					510	
Val	Asn	Leu	Pro	Thr	Pro	Asp	Phe	Ser	Met	Pro	Tyr	Asn	Val	Ile	
				515					520					525	
Cys	Leu	Thr	Cys	Thr	Val	Val	Ala	Val	Cys	Tyr	Gly	Ser	Phe	Tyr	
				530					535					540	
Asn	Leu	Leu	Thr	Arg	Thr	Phe	His	Ile	Glu	Glu	Pro	Arg	Thr	Gly	
				545					550					555	
Gly	Leu	Ala	Lys	Arg	Leu	Ala	Asn	Leu	Ile	Arg	Arg	Ala	Arg	Gly	
				560					565					570	

Val Pro Pro Leu

<210> 341  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 341  
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<210> 342  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> Artificial Sequence  
 <222> 1-24  
 <223> Synthetic oligonucleotide probe

<400> 342  
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<210> 343  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 343  
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<210> 344  
 <211> 762  
 <212> DNA  
 <213> Homo sapiens

<400> 344  
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gtttgccag ctgacaacgt acgtgcttc aagtcgatc ctccccagtg 150  
tcacacagac caggactgtc tgggggaaag gaagtgttgt tacctgcact 200  
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gaccccaggg acggtacttt ccctctctac ctggtgctcc tccctaattgc 550  
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aaagagctgc cttgcccttc tgcaatgtgt gatcacagct agaaggcact 650  
gtcagagaag agaaactggc cctcaccaga tgctgaatct gctgggtgcct 700  
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tttataatcc aa 762

<210> 345  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 345  
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20 25 30  
Ala Gly Val Cys Pro Ala Asp Asn Val Arg Cys Phe Lys Ser Asp  
35 40 45  
Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys  
50 55 60  
Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys  
65 70 75  
Glu Leu Glu Glu Gly Gly Asn Lys Asp Glu Asp Val Ser Arg Pro  
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Tyr Pro Glu Pro Gly Trp Glu Ala Lys Cys Pro Gly Ser Ser Ser  
95 100 105  
Thr Arg Cys Pro Gln Lys  
110

<210> 346  
<211> 2528  
<212> DNA  
<213> Homo sapiens

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tgcttctggc tgtcctggtc ttctttctct tcgccttgcc ctcttttatt 250  
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cccagtcact ccttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450



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 ctgtagggtc tgaggccagg gatttttaatt taaatggggg gatgggtggc 2200  
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 attccagatc gagtttacag ttgtgaaatc ttgaaggtat tacttaactt 2350  
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 ggtctatact tgtccttgtc tttaagctat ttgacaactc tacgtgttgt 2450  
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 attttctaca gtgaaaaaaaa aaaaaaaaa 2528

<210> 347

<211> 600

<212> PRT

<213> Homo sapiens

<400> 347

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Gln	Trp	Ser	Leu	Leu	Leu	Ala	Val	Leu	Val	Phe	Phe	Leu	Phe	Ala
			20						25					30
Leu	Pro	Ser	Phe	Ile	Lys	Glu	Pro	Gln	Thr	Lys	Pro	Ser	Arg	His
			35						40					45
Gln	Arg	Thr	Glu	Asn	Ile	Lys	Glu	Arg	Ser	Leu	Gln	Ser	Leu	Ala
			50						55					60
Lys	Pro	Lys	Ser	Gln	Ala	Pro	Thr	Arg	Ala	Arg	Arg	Thr	Thr	Ile

	65	70	75
Tyr Ala Glu Pro	Ala Pro Glu Asn Asn	Ala Leu Asn Thr Gln Thr	
	80	85	90
Gln Pro Lys Ala	His Thr Thr Gly Asp	Arg Gly Lys Glu Ala Asn	
	95	100	105
Gln Ala Pro Pro	Glu Glu Gln Asp Lys	Val Pro His Thr Ala Gln	
	110	115	120
Arg Ala Ala Trp	Lys Ser Pro Glu Lys	Glu Lys Thr Met Val Asn	
	125	130	135
Thr Leu Ser Pro	Arg Gly Gln Asp Ala	Gly Met Ala Ser Gly Arg	
	140	145	150
Thr Glu Ala Gln	Ser Trp Lys Ser Gln	Asp Thr Lys Thr Thr Gln	
	155	160	165
Gly Asn Gly Gly	Gln Thr Arg Lys Leu	Thr Ala Ser Arg Thr Val	
	170	175	180
Ser Glu Lys His	Gln Gly Lys Ala Ala	Thr Thr Ala Lys Thr Leu	
	185	190	195
Ile Pro Lys Ser	Gln His Arg Met Leu	Ala Pro Thr Gly Ala Val	
	200	205	210
Ser Thr Arg Thr	Arg Gln Lys Gly Val	Thr Thr Ala Val Ile Pro	
	215	220	225
Pro Lys Glu Lys	Lys Pro Gln Ala Thr	Pro Pro Pro Ala Pro Phe	
	230	235	240
Gln Ser Pro Thr	Thr Gln Arg Asn Gln	Arg Leu Lys Ala Ala Asn	
	245	250	255
Phe Lys Ser Glu	Pro Arg Trp Asp Phe	Glu Glu Lys Tyr Ser Phe	
	260	265	270
Glu Ile Gly Gly	Leu Gln Thr Thr Cys	Pro Asp Ser Val Lys Ile	
	275	280	285
Lys Ala Ser Lys	Ser Leu Trp Leu Gln	Lys Leu Phe Leu Pro Asn	
	290	295	300
Leu Thr Leu Phe	Leu Asp Ser Arg His	Phe Asn Gln Ser Glu Trp	
	305	310	315
Asp Arg Leu Glu	His Phe Ala Pro Pro	Phe Gly Phe Met Glu Leu	
	320	325	330
Asn Tyr Ser Leu	Val Gln Lys Val Val	Thr Arg Phe Pro Pro Val	
	335	340	345
Pro Gln Gln Gln	Leu Leu Leu Ala Ser	Leu Pro Ala Gly Ser Leu	
	350	355	360
Arg Cys Ile Thr	Cys Ala Val Val Gly	Asn Gly Gly Ile Leu Asn	
	365	370	375
Asn Ser His Met	Gly Gln Glu Ile Asp	Ser His Asp Tyr Val Phe	

	380		385		390
Arg Leu Ser Gly	Ala Leu Ile Lys Gly	Tyr Glu Gln Asp Val	Gly		
	395	400	405		
Thr Arg Thr Ser	Phe Tyr Gly Phe Thr	Ala Phe Ser Leu Thr	Gln		
	410	415	420		
Ser Leu Leu Ile	Leu Gly Asn Arg Gly	Phe Lys Asn Val Pro	Leu		
	425	430	435		
Gly Lys Asp Val	Arg Tyr Leu His Phe	Leu Glu Gly Thr Arg	Asp		
	440	445	450		
Tyr Glu Trp Leu	Glu Ala Leu Leu Met	Asn Gln Thr Val Met	Ser		
	455	460	465		
Lys Asn Leu Phe	Trp Phe Arg His Arg	Pro Gln Glu Ala Phe	Arg		
	470	475	480		
Glu Ala Leu His	Met Asp Arg Tyr Leu	Leu Leu His Pro Asp	Phe		
	485	490	495		
Leu Arg Tyr Met	Lys Asn Arg Phe Leu	Arg Ser Lys Thr Leu	Asp		
	500	505	510		
Gly Ala His Trp	Arg Ile Tyr Arg Pro	Thr Thr Gly Ala Leu	Leu		
	515	520	525		
Leu Leu Thr Ala	Leu Gln Leu Cys Asp	Gln Val Ser Ala Tyr	Gly		
	530	535	540		
Phe Ile Thr Glu	Gly His Glu Arg Phe	Ser Asp His Tyr Tyr	Asp		
	545	550	555		
Thr Ser Trp Lys	Arg Leu Ile Phe Tyr	Ile Asn His Asp Phe	Lys		
	560	565	570		
Leu Glu Arg Glu	Val Trp Lys Arg Leu	His Asp Glu Gly Ile	Ile		
	575	580	585		
Arg Leu Tyr Gln	Arg Pro Gly Pro Gly	Thr Ala Lys Ala Lys	Asn		
	590	595	600		

<210> 348  
 <211> 496  
 <212> DNA  
 <213> Homo sapiens

<400> 348  
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 gggccttcgc cggagcagcg agtggaatt gttcctcgag atctgaggat 100  
 gaaggacaag tttctaaaac accttacagg ccctctttat tttagtccaa 150  
 agtgcagcaa acacttccat agactttatc acaacaccag agactgcacc 200  
 attcctgcat actataaaag atgcgccagg cttcttacct ggctggctgt 250  
 cagtccagtg tgcattggagg ataagtgagc agaccgtaca ggagcagcac 300  
 accaggagcc atgagaagtg ccttggaac caacaggaa acagaactat 350

ctttatacac atccccctcat ggacaagaga tttatTTTTg cagacagact 400  
 cttccataag tcctttgagt tttgtatggt gttgacagtt tgcagatata 450  
 tattcgataa atcagtgtac ttgacagtgt tatctgtcac ttattt 496

<210> 349  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 349  
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 20 25 30  
 Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
 50 55 60  
 Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
 65 70 75  
 Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
 80 85 90  
 Lys

<210> 350  
 <211> 1141  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
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 caccgagagg cagcagaagc actgcctggc cttcagcccc aagaccatag 350  
 caggcatcgc ctgagctgtg atcctctttg ttgctgtggt tgccaccacc 400  
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 tctgctgccc cttcagtgat gccaaccttg ggagatgccc tcatcctgta 750  
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<210> 351

<211> 197

<212> PRT

<213> Homo sapiens

<400> 351

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Cys	Leu	Trp	Tyr	Leu	Asp	Arg	Asn	Gly	Ser	Trp	His	Pro	Gly	Phe	35	40	45	
Asn	Cys	Glu	Phe	Phe	Thr	Phe	Cys	Cys	Gly	Thr	Cys	Tyr	His	Arg	50	55	60	
Tyr	Cys	Cys	Arg	Asp	Leu	Thr	Leu	Leu	Ile	Thr	Glu	Arg	Gln	Gln	65	70	75	
Lys	His	Cys	Leu	Ala	Phe	Ser	Pro	Lys	Thr	Ile	Ala	Gly	Ile	Ala	80	85	90	
Ser	Ala	Val	Ile	Leu	Phe	Val	Ala	Val	Val	Ala	Thr	Thr	Ile	Cys	95	100	105	
Cys	Phe	Leu	Cys	Ser	Cys	Cys	Tyr	Leu	Tyr	Arg	Arg	Arg	Gln	Gln	110	115	120	
Leu	Gln	Ser	Pro	Phe	Glu	Gly	Gln	Glu	Ile	Pro	Met	Thr	Gly	Ile	125	130	135	
Pro	Val	Gln	Pro	Val	Tyr	Pro	Tyr	Pro	Gln	Asp	Pro	Lys	Ala	Gly	140	145	150	
Pro	Ala	Pro	Pro	Gln	Pro	Gly	Phe	Met	Tyr	Pro	Pro	Ser	Gly	Pro	155	160	165	
Ala	Pro	Gln	Tyr	Pro	Leu	Tyr	Pro	Ala	Gly	Pro	Pro	Val	Tyr	Asn	170	175	180	

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Gly Ala

<210> 352  
 <211> 3226  
 <212> DNA  
 <213> Homo sapiens

<400> 352  
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 tgcagaaccc aaaataagga aaagcttcaa tggctactag atgaaagctt 2550  
 taaggagat aaaataaaaa ctcaggagtt tccacaaatt cttacactca 2600  
 ttggcaggaa cccagtagga taccactgg cctggcaatt tctgaggaaa 2650  
 aactggaaca aacttgtaaa aaagtttgaa cttggctcat cttccatagc 2700  
 ccacatggta atgggtacaa caaatcaatt ctccacaaga acacggcttg 2750  
 aagaggtaaa aggattcttc agctctttga aagaaaatgg ttctcagctc 2800  
 cgttgtgtcc aacagacaat tgaaaccatt gaagaaaaca tcggttgat 2850  
 ggataagaat tttgataaaa tcagagtgtg gctgcaaagt gaaaagcttg 2900

aacgtatgta aaaattcctc ccttgcccg ttcctgttat ctctaatacac 2950  
 caacattttg ttgagtgtat tttcaaacta gagatggctg ttttggctcc 3000  
 aactggagat acttttttcc cttcaactca ttttttgact atccctgtga 3050  
 aaagaatagc tgttagtttt tcatgaatgg gctttttcat gaatgggcta 3100  
 tcgctaccat gtgttttgtt catcacaggt gttgccctgc aacgtaaacc 3150  
 caagtgttgg gttccctgcc acagaagaat aaagtacctt attctttctca 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaa 3226

<210> 353  
 <211> 941  
 <212> PRT  
 <213> Homo sapiens

<400> 353  
 Met Val Phe Leu Pro Leu Lys Trp Ser Leu Ala Thr Met Ser Phe  
 1 5 10 15  
 Leu Leu Ser Ser Leu Leu Ala Leu Leu Thr Val Ser Thr Pro Ser  
 20 25 30  
 Trp Cys Gln Ser Thr Glu Ala Ser Pro Lys Arg Ser Asp Gly Thr  
 35 40 45  
 Pro Phe Pro Trp Asn Lys Ile Arg Leu Pro Glu Tyr Val Ile Pro  
 50 55 60  
 Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr  
 65 70 75  
 Phe Trp Gly Thr Thr Lys Val Glu Ile Thr Ala Ser Gln Pro Thr  
 80 85 90  
 Ser Thr Ile Ile Leu His Ser His His Leu Gln Ile Ser Arg Ala  
 95 100 105  
 Thr Leu Arg Lys Gly Ala Gly Glu Arg Leu Ser Glu Glu Pro Leu  
 110 115 120  
 Gln Val Leu Glu His Pro Pro Gln Glu Gln Ile Ala Leu Leu Ala  
 125 130 135  
 Pro Glu Pro Leu Leu Val Gly Leu Pro Tyr Thr Val Val Ile His  
 140 145 150  
 Tyr Ala Gly Asn Leu Ser Glu Thr Phe His Gly Phe Tyr Lys Ser  
 155 160 165  
 Thr Tyr Arg Thr Lys Glu Gly Glu Leu Arg Ile Leu Ala Ser Thr  
 170 175 180  
 Gln Phe Glu Pro Thr Ala Ala Arg Met Ala Phe Pro Cys Phe Asp  
 185 190 195  
 Glu Pro Ala Phe Lys Ala Ser Phe Ser Ile Lys Ile Arg Arg Glu  
 200 205 210  
 Pro Arg His Leu Ala Ile Ser Asn Met Pro Leu Val Lys Ser Val





530	535	540
Asn Val His Met Lys Gln Glu His Tyr	Met Lys Gly Ser Asp Gly	
545	550	555
Ala Pro Asp Thr Gly Tyr Leu Trp His	Val Pro Leu Thr Phe Ile	
560	565	570
Thr Ser Lys Ser Asn Met Val His Arg	Phe Leu Leu Lys Thr Lys	
575	580	585
Thr Asp Val Leu Ile Leu Pro Glu Glu	Val Glu Trp Ile Lys Phe	
590	595	600
Asn Val Gly Met Asn Gly Tyr Tyr Ile	Val His Tyr Glu Asp Asp	
605	610	615
Gly Trp Asp Ser Leu Thr Gly Leu Leu	Lys Gly Thr His Thr Ala	
620	625	630
Val Ser Ser Asn Asp Arg Ala Ser Leu	Ile Asn Asn Ala Phe Gln	
635	640	645
Leu Val Ser Ile Gly Lys Leu Ser Ile	Glu Lys Ala Leu Asp Leu	
650	655	660
Ser Leu Tyr Leu Lys His Glu Thr Glu	Ile Met Pro Val Phe Gln	
665	670	675
Gly Leu Asn Glu Leu Ile Pro Met Tyr	Lys Leu Met Glu Lys Arg	
680	685	690
Asp Met Asn Glu Val Glu Thr Gln Phe	Lys Ala Phe Leu Ile Arg	
695	700	705
Leu Leu Arg Asp Leu Ile Asp Lys Gln	Thr Trp Thr Asp Glu Gly	
710	715	720
Ser Val Ser Glu Gln Met Leu Arg Ser	Glu Leu Leu Leu Leu Ala	
725	730	735
Cys Val His Asn Tyr Gln Pro Cys Val	Gln Arg Ala Glu Gly Tyr	
740	745	750
Phe Arg Lys Trp Lys Glu Ser Asn Gly	Asn Leu Ser Leu Pro Val	
755	760	765
Asp Val Thr Leu Ala Val Phe Ala Val	Gly Ala Gln Ser Thr Glu	
770	775	780
Gly Trp Asp Phe Leu Tyr Ser Lys Tyr	Gln Phe Ser Leu Ser Ser	
785	790	795
Thr Glu Lys Ser Gln Ile Glu Phe Ala	Leu Cys Arg Thr Gln Asn	
800	805	810
Lys Glu Lys Leu Gln Trp Leu Leu Asp	Glu Ser Phe Lys Gly Asp	
815	820	825
Lys Ile Lys Thr Gln Glu Phe Pro Gln	Ile Leu Thr Leu Ile Gly	
830	835	840
Arg Asn Pro Val Gly Tyr Pro Leu Ala	Trp Gln Phe Leu Arg Lys	

	845		850		855
Asn Trp Asn Lys	Leu Val Gln Lys Phe	Glu Leu Gly Ser Ser Ser			
	860	865			870
Ile Ala His Met	Val Met Gly Thr Thr	Asn Gln Phe Ser Thr Arg			
	875	880			885
Thr Arg Leu Glu	Glu Val Lys Gly Phe	Phe Ser Ser Leu Lys Glu			
	890	895			900
Asn Gly Ser Gln	Leu Arg Cys Val Gln	Gln Thr Ile Glu Thr Ile			
	905	910			915
Glu Glu Asn Ile	Gly Trp Met Asp Lys	Asn Phe Asp Lys Ile Arg			
	920	925			930
Val Trp Leu Gln	Ser Glu Lys Leu Glu	Arg Met			
	935	940			

<210> 354  
 <211> 1587  
 <212> DNA  
 <213> Homo sapiens

<400> 354  
 cagccacaga cgggtcatga ggcgggtatt actgctggcc ctctgggggt 50  
 tcatcctccc actgccagga gtgcaggcgc tgctctgcca gtttgggaca 100  
 gttcagcatg tgtggaaggt gtccgacctt ccccggaat ggaccctaa 150  
 gaacaccagc tgcgacagcg gcttgggggtg ccaggacacg ttgatgctca 200  
 ttgagagcgg accccaagtg agcctggtgc tctccaaggg ctgcacggag 250  
 gccaggacc aggagccccg cgtcactgag caccggatgg gcccggcct 300  
 ctccctgatc tcctacacct tegtgtgccg ccaggaggac ttctgcaaca 350  
 acctcggtta ctcctcccg ctttggggccc cacagcccc agcagacca 400  
 ggatccttga ggtgccaggt ctgcttgtct atggaaggct gtctggaggg 450  
 gacaacagaa gagatctgcc ccaaggggac cacacactgt tatgatggcc 500  
 tcctcaggct caggggagga ggcattctt ccaatctgag agtccaggga 550  
 tgcattcccc agccagggtg caacctgctc aatgggacac aggaaattgg 600  
 gcccggtggg atgactgaga actgcaatag gaaagatttt ctgacctgtc 650  
 atcgggggac caccattatg acacacggaa acttgggtca agaaccact 700  
 gattggacca catcgaatac cgagatgtgc gaggtggggc aggtgtgtca 750  
 ggagacgctg ctgctcatag atgtaggact cacatcaacc ctggtgggga 800  
 caaaaggctg cagcactgtt ggggtcaaaa attcccagaa gaccaccatc 850  
 cactcagccc ctctgggggt gcttgtggcc tcctataccc acttctgctc 900  
 ctcgacctg tgcaatagtg ccagcagcag cagcgttctg ctgaactccc 950

tccctcctca agctgcccct gtcccaggag accggcagtg tcctacctgt 1000  
 gtgcagcccc ttggaacctg ttcaagtggc tccccccgaa tgacctgccc 1050  
 caggggcgcc actcattgtt atgatgggta cattcatctc tcaggagggtg 1100  
 ggctgtccac caaaatgagc attcagggct gcgtggccca accttccagc 1150  
 ttcttggtga accacaccag acaaatcggg atcttctctg cgcgtgagaa 1200  
 gcgtgatgtg cagcctctg cctctcagca tgagggaggt ggggctgagg 1250  
 gcctggagtc tctcacttgg ggggtggggc tggcactggc cccagcgctg 1300  
 tggtagggag tggtttgccc ttctgctaa ctctattacc cccacgattc 1350  
 ttcaccgctg ctgaccaccc aactcaacc tccctctgac ctcataacct 1400  
 aatggccttg gacaccagat tctttcccat tctgtccatg aatcatcttc 1450  
 cccacacaca atcattcata tctactcacc taacagcaac actggggaga 1500  
 gcctggagca tccggacttg ccctatggga gaggggacgc tggaggagtg 1550  
 gctgcatgta tctgataata cagaccctgt cctttca 1587

<210> 355  
 <211> 437  
 <212> PRT  
 <213> Homo sapiens

<400> 355  
 Met Ser Ala Val Leu Leu Leu Ala Leu Leu Gly Phe Ile Leu Pro  
 1 5 10 15  
 Leu Pro Gly Val Gln Ala Leu Leu Cys Gln Phe Gly Thr Val Gln  
 20 25 30  
 His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys  
 35 40 45  
 Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met  
 50 55 60  
 Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly  
 65 70 75  
 Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg  
 80 85 90  
 Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg  
 95 100 105  
 Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp  
 110 115 120  
 Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val  
 125 130 135  
 Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile  
 140 145 150  
 Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu



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<400> 356
gcgacgggca ggacgccccg ttgcctagc gcggtctcag gagttggtgt 50
cctgcctgog ctcaggatga gggggaatct ggccctggtg ggcgttctaa 100
tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150
ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200
tgcgggagag aaggagagaca aaggcgcccc cggacggcct ggaagagtcg 250
gccccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300
gtgggtcgtc atggaaaaat tgggtccatt ggctctaaag gtgagaaagg 350
agattccggt gacataggac cccctggtcc taatggagaa ccaggcctcc 400
catgtgagtg cagccagctg cgcaaggcca tcggggagat ggacaaccag 450
gtctctcagc tgaccagoga gctcaagttc atcaagaatg ctgtcgccgg 500
tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550
gctacgcgga cgcccagctg tcttgccagg gccgcggggg cacgctgagc 600
atgcccgaag acgaggctgc caatggcctg atggccgcat acctggcgca 650
agccggcctg gcccggtgtct tcatcggcac caacgacctg gagaaggagg 700
gcgccttcgt gtactctgac cactccccca tgcggacctt caacaagtgg 750
cgcagcggtg agcccacaac tgcctacgac gaggaggact gcgtggagat 800
ggtggcctcg ggcggctgga acgacgtggc ctgccacacc accatgtact 850
tcatgtgtga gtttgacaag gagaacatgt gagcctcagg ctggggctgc 900
ccattggggg ccccatatgt ccctgcaggg ttggcaggga cagagcccag 950
accatggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000
tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050
aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100
acctgtattg tagccccaat gtcattatgt aattattacc cagaattgct 1150
cttcataaaa gcttgtgcct ttgtccaagc tatacaataa aatctttaag 1200
tagtgcagta gttaagtcca aaaaaaaaaa aaaaaaaaaa 1238

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<210> 357
<211> 271
<212> PRT
<213> Homo sapiens

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<400> 357
Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala
 1             5             10             15
Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp
          20             25             30

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Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp		35	40	45
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg		50	55	60
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln		65	70	75
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser		80	85	90
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro		95	100	105
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys		110	115	120
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu		125	130	135
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu		140	145	150
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp		155	160	165
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro		170	175	180
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln		185	190	195
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys		200	205	210
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe		215	220	225
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu		230	235	240
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala		245	250	255
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn		260	265	270

Met

<210> 358  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 358  
 agtgactgca gccttcctag atccctcca ctcggtttct ctctttgcag 50  
 gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100  
 gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtgggt 250  
cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
gccaggctag cacagatcct aaggaatcaa catctcccga gaaacgtgac 400  
atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
gggaaagaca ggacctttct taccttcagt gagggttcct cggccccttc 500  
atcccaatca gcttggatcc acaggaaagt cttccctggg aacagaggag 550  
cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
cagctttggc atcctcaagt atcccccgag agcagaatag gtactccact 650  
tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
caggtgcgca cgctcctggt accctttctc ttccctgttc ttgtaacatt 750  
cttgtgcttt gactccttct ccatcttttc tacctgaccc tgggtgtggaa 800  
actgcatagt gaatatcccc aaccccaatg ggcattgact gtagaatacc 850  
ctagagtccc tgtagtgtcc tacattaaaa atataatgtc tctctctatt 900  
cctcaacaat aaaggatttt tgcataatgaa aaaaaaaaaa aaaaaaaaaa 950  
aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 359  
Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu  
1 5 10 15  
Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val  
20 25 30  
Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln  
35 40 45  
Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu  
50 55 60  
Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr  
65 70 75  
Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met  
80 85 90  
Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu  
95 100 105  
Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly  
110 115 120



Ser	Thr	Gly	Lys	Ser	Ser	Leu	Gly	Thr	Glu	Glu	Gln	Arg	Pro	Leu
				125					130					135

<210> 360  
 <211> 1738  
 <212> DNA  
 <213> Homo sapiens

<400> 360  
 gggcgtctcc ggctgctcct attgagctgt ctgctcgtg tgcccgtgt 50  
 gcttctgtg cccgcgtgt cgccgtgt accgcgtct ctggacgcg 100  
 gagacgccag cgagctggtg attggagccc tgcggagagc tcaagcggc 150  
 agctctgccc caggagccca ggctgccccg tgagtcccat agttgctgca 200  
 ggagtggagc catgagctgc gtctgggtg gtgtcatccc cttggggctg 250  
 ctgttctctg tctgcggatc ccaaggctac ctctgccc acgtcactct 300  
 cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350  
 tccgcagagc catcccagg gaggacaagg aggagatcct catgctgcac 400  
 aacaagcttc gggggccagg gcagcctcag gcctccaaca tggagtacat 450  
 ggtgagcgcc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500  
 gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550  
 tgtgatggct ggctcagggt ctctctggtc aggggaggat cccggctctg 600  
 ttctgttttg tttgtttgtt ttgagacagg gtctcactct gccactgacg 650  
 ctggagtgca atggcacaat cgtcatgccc tgaaacctta gactcccggg 700  
 gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
 accatggtgc ccagctagat tttaaattt ttgtggagat gggggtcttg 800  
 ctacgttgcc caggctggtc ttgaactcct aggtcaagc aatcctcctg 850  
 cctcagcctc tcaaagtgt aggattatag gcatgagtca ccctgtctgg 900  
 ctctggctct gttcttaaca ttctgcaaaa acaacacacg tgggttcct 950  
 gtgcagagcc tgctcgttg cttcatgtc actcttggtg gctccactgg 1000  
 gaacacagct ctcagccttt ccacctgga ggcagagtgg ggagggggcc 1050  
 agggctgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100  
 accaccctga cttctcctta gcccggtga gcctcacttt ccacttgag 1150  
 agtccttcct cgcgtgggtg ccctgactgt gagataagtc gaggctgtga 1200  
 agggcccggc acagactgac ctgcctcccc aaccctagg ctttgctaac 1250  
 cgggaaagga gctaacggtg acagaagaca gccaaggtca accctcccgg 1300  
 gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

cccaagctcc agtgtggaaa cttccttcct ggctggtttt ccagaactac 1400  
 agaggaatgg accacagtct tccaggtgcc ctcctcgtcc accaaccggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatggctttt taaacaaacc 1500  
 cacgtcccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550  
 caagttagcc gggcatggtg gtgcgcacct gtagtcccag ctgcagtggg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagtgag ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 1 5 10 15  
 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 20 25 30  
 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 35 40 45  
 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 50 55 60  
 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser  
 65 70 75  
 Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp  
 80 85 90  
 His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser  
 95 100 105  
 Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val  
 110 115 120  
 Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val  
 125 130 135  
 Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln  
 140 145 150  
 Trp His Asn Arg His Ala Leu Lys Pro  
 155

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagaggc caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg ggggtctgggc tgccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150  
gagtcttttc tgacaaattc ctctatgag tccagcttcc tggaattgct 200  
tgaaaagctc tgccctctcc tccatctccc ttcagggacc agcgtcaccc 250  
tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgtccttctt ggcccgggct tttgggccgg ggatgcagga 350  
ggcaggcccc gaccctgtct ttcagcaggc cccaccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly  
1 5 10 15  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu  
20 25 30  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu  
35 40 45  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly  
50 55 60  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val  
65 70 75  
Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaatgtt aaaacaaacg aaataaaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actctttaaa 100  
acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
cctcttaacgc atatgttaca aattatctgg agttcctaata caatgcagag 300  
ttcccctccc ctccgattgt totaaataat tgaaagatgt ctgctgtgga 350  
aaaaggcatg tattttaaat tgtatgattc tcaaccatct ttagttggga 400  
aaggtccttg aaagccaatg gaaatacttt ttttttttct tggcactaat 450

caagtgagtg ttaccttttc acttagtagg atgtgttggt acgctagtaa 500  
aatagaaacc tgtgttttatt ctcaggtatt ttagaaacaa cagccatcat 550  
tttattttat gtgtgtgttc ttggctgtat tcataaatta tatatttttg 600  
gctatcaaat attacttcat tcaatataaa taacaatagt agaagttggt 650  
tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
accagaataa aagttcatat ctaccc 826

<210> 365  
<211> 67  
<212> PRT  
<213> Homo sapiens

<400> 365  
Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
1 5 10 15  
Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
20 25 30  
Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
35 40 45  
Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
50 55 60  
Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366  
<211> 2475  
<212> DNA  
<213> Homo sapiens

<400> 366  
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ttttgcagga tgatggtggc ccttcgagga gcttctgcat tgctggttct 150  
gttccttgca gcttttctgc ccccgccgca gtgtaccag gaccagcca 200  
tggtgcatta catctaccag cgctttcgag tcttgagca agggctggaa 250  
aaatgtaccc aagcaacgag ggcatacatt caagaattcc aagagttctc 300  
aaaaaatata tctgtcatgc tgggaagatg tcagacctac acaagtgagt 350  
acaagagtgc agtgggtaac ttggcactga gagttgaacg tgccaacg 400  
gagattgact acatacaata ccttcgagag gctgacgagt gcatcgtatc 450  
agaggacaag aactggcag aaatgttgct ccaagaagct gaagaagaga 500

aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550  
 ataaagtctt tgaaaatagt gaagaagatg atggacacac atggctcttg 600  
 gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650  
 ccagaaacaa cactgttttg gaatttgcaa acatacgggc attcatggag 700  
 gataacacca agccagctcc ccggaagcaa atcctaacac tttcctggca 750  
 gggaacaggc caagtgatct acaaaggttt tctatTTTTT cataaccaag 800  
 caacttctaa tgagataatc aaatataacc tgcagaagag gactgtggaa 850  
 gatcgaatgc tgctcccagg aggggtaggc cgagcattgg tttaccagca 900  
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 ccatccactc tgggccaggc acccatagcc atttggttct cacaagatt 1000  
 gagccgggca cactgggagt ggagcattca tgggataccc catgcagaag 1050  
 ccaggatgct gaagcctcat tctcttTgtg tggggTtctc tatgtggtct 1100  
 acagtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150  
 ctgggcacta tcagtgagga ggacttgccc aacttgTtct tccccagag 1200  
 accaagaagt cactccatga tccattacaa cccagagat aagcagctct 1250  
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 aagctgcctc tgaagtaatg cattacagct gtgagaaaga gcaactgtggc 1350  
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 ctcccctggc ctttgctgaa gctottccct ctttttcaaa tgtctattga 1750  
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 tgggattaca ggcatgtgcc accacacctg gcttaaaata ctatttctta 1950  
 ttgaggTtta acctotattt cccctagccc tgtccttcca ctaagcttgg 2000  
 tagatgtaat aataaagtga aaatattaac atttgaatat cgctttccag 2050  
 gtgtggagtg tttgcacatc attgaattct cgtttcacct ttgtgaaaca 2100

tgcacaagtc ttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
 taaaaagtga aagatacagc tagaaaatac taaaaatccc atagtttttc 2200  
 cattgcccaa ggaagcatca aatacgtatg tttgttcacc tactcttata 2250  
 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tcccttttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tcctccagaa aaccagtcta aggggtgagga cccaactct agcctcctct 2400  
 tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaaagt 2450  
 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367

<211> 402

<212> PRT

<213> Homo sapiens

<400> 367

Met	Met	Val	Ala	Leu	Arg	Gly	Ala	Ser	Ala	Leu	Leu	Val	Leu	Phe	
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Leu	Ala	Ala	Phe	Leu	Pro	Pro	Pro	Gln	Cys	Thr	Gln	Asp	Pro	Ala	
				20					25					30	
Met	Val	His	Tyr	Ile	Tyr	Gln	Arg	Phe	Arg	Val	Leu	Glu	Gln	Gly	
				35					40					45	
Leu	Glu	Lys	Cys	Thr	Gln	Ala	Thr	Arg	Ala	Tyr	Ile	Gln	Glu	Phe	
				50					55					60	
Gln	Glu	Phe	Ser	Lys	Asn	Ile	Ser	Val	Met	Leu	Gly	Arg	Cys	Gln	
				65					70					75	
Thr	Tyr	Thr	Ser	Glu	Tyr	Lys	Ser	Ala	Val	Gly	Asn	Leu	Ala	Leu	
				80					85					90	
Arg	Val	Glu	Arg	Ala	Gln	Arg	Glu	Ile	Asp	Tyr	Ile	Gln	Tyr	Leu	
				95					100					105	
Arg	Glu	Ala	Asp	Glu	Cys	Ile	Val	Ser	Glu	Asp	Lys	Thr	Leu	Ala	
				110					115					120	
Glu	Met	Leu	Leu	Gln	Glu	Ala	Glu	Glu	Glu	Lys	Lys	Ile	Arg	Thr	
				125					130					135	
Leu	Leu	Asn	Ala	Ser	Cys	Asp	Asn	Met	Leu	Met	Gly	Ile	Lys	Ser	
				140					145					150	
Leu	Lys	Ile	Val	Lys	Lys	Met	Met	Asp	Thr	His	Gly	Ser	Trp	Met	
				155					160					165	
Lys	Asp	Ala	Val	Tyr	Asn	Ser	Pro	Lys	Val	Tyr	Leu	Leu	Ile	Gly	
				170					175					180	
Ser	Arg	Asn	Asn	Thr	Val	Trp	Glu	Phe	Ala	Asn	Ile	Arg	Ala	Phe	
				185					190					195	
Met	Glu	Asp	Asn	Thr	Lys	Pro	Ala	Pro	Arg	Lys	Gln	Ile	Leu	Thr	
				200					205					210	

Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu
				215					220					225
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn
				230					235					240
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly
				245					250					255
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile
				260					265					270
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly
				275					280					285
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly
				290					295					300
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln
				305					310					315
Asp	Ala	Glu	Ala	Ser	Phe	Leu	Leu	Cys	Gly	Val	Leu	Tyr	Val	Val
				320					325					330
Tyr	Ser	Thr	Gly	Gly	Gln	Gly	Pro	His	Arg	Ile	Thr	Cys	Ile	Tyr
				335					340					345
Asp	Pro	Leu	Gly	Thr	Ile	Ser	Glu	Glu	Asp	Leu	Pro	Asn	Leu	Phe
				350					355					360
Phe	Pro	Lys	Arg	Pro	Arg	Ser	His	Ser	Met	Ile	His	Tyr	Asn	Pro
				365					370					375
Arg	Asp	Lys	Gln	Leu	Tyr	Ala	Trp	Asn	Glu	Gly	Asn	Gln	Ile	Ile
				380					385					390
Tyr	Lys	Leu	Gln	Thr	Lys	Arg	Lys	Leu	Pro	Leu	Lys			
				395					400					

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgccgc gtactcacta gctgaggtgg cagtgggtcc accaacaatgg 50  
 agctctcgca gatgtcggag ctcatggggc tgtcgggtgtt gcttggggetg 100  
 ctggccctga tggcgacggc ggcggtagcg cgggggtggc tgcgcgcggg 150  
 ggaggagagg agcggccggc ccgcctgcca aaaagcaaata ggattttccac 200  
 ctgacaaatc ttcgggatcc aagaagcaga aacaatatca gcggattcgg 250  
 aaggagaagc ctcaacaaca caacttcacc caccgcctcc tggctgcagc 300  
 tctgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgac gcaccatccg catctggagc 400  
 accaaggact tcctgcagcg agagcaccgc agcatgagag ccaacgtgga 450





aaacacattc cttgggaagg caaagttttc tgggacttga tcatacattt 2100  
 tatatggttg ggactttctct cttcgggaga tgatatcttg ttttaaggaga 2150  
 cctcttttca gttcatcaag ttcacagat atttgagtgc ccactctgtg 2200  
 cccaaataaa tatgagctgg ggattaaaaa aaaaaaaaaa aaaaaaaaaa 2250  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2281

<210> 369

<211> 447

<212> PRT

<213> Homo sapiens

<400> 369

Met	Glu	Leu	Ser	Gln	Met	Ser	Glu	Leu	Met	Gly	Leu	Ser	Val	Leu	1	5	10	15
Leu	Gly	Leu	Leu	Ala	Leu	Met	Ala	Thr	Ala	Ala	Val	Ala	Arg	Gly	20	25	30	
Trp	Leu	Arg	Ala	Gly	Glu	Glu	Arg	Ser	Gly	Arg	Pro	Ala	Cys	Gln	35	40	45	
Lys	Ala	Asn	Gly	Phe	Pro	Pro	Asp	Lys	Ser	Ser	Gly	Ser	Lys	Lys	50	55	60	
Gln	Lys	Gln	Tyr	Gln	Arg	Ile	Arg	Lys	Glu	Lys	Pro	Gln	Gln	His	65	70	75	
Asn	Phe	Thr	His	Arg	Leu	Leu	Ala	Ala	Ala	Leu	Lys	Ser	His	Ser	80	85	90	
Gly	Asn	Ile	Ser	Cys	Met	Asp	Phe	Ser	Ser	Asn	Gly	Lys	Tyr	Leu	95	100	105	
Ala	Thr	Cys	Ala	Asp	Asp	Arg	Thr	Ile	Arg	Ile	Trp	Ser	Thr	Lys	110	115	120	
Asp	Phe	Leu	Gln	Arg	Glu	His	Arg	Ser	Met	Arg	Ala	Asn	Val	Glu	125	130	135	
Leu	Asp	His	Ala	Thr	Leu	Val	Arg	Phe	Ser	Pro	Asp	Cys	Arg	Ala	140	145	150	
Phe	Ile	Val	Trp	Leu	Ala	Asn	Gly	Asp	Thr	Leu	Arg	Val	Phe	Lys	155	160	165	
Met	Thr	Lys	Arg	Glu	Asp	Gly	Gly	Tyr	Thr	Phe	Thr	Ala	Thr	Pro	170	175	180	
Glu	Asp	Phe	Pro	Lys	Lys	His	Lys	Ala	Pro	Val	Ile	Asp	Ile	Gly	185	190	195	
Ile	Ala	Asn	Thr	Gly	Lys	Phe	Ile	Met	Thr	Ala	Ser	Ser	Asp	Thr	200	205	210	
Thr	Val	Leu	Ile	Trp	Ser	Leu	Lys	Gly	Gln	Val	Leu	Ser	Thr	Ile	215	220	225	
Asn	Thr	Asn	Gln	Met	Asn	Asn	Thr	His	Ala	Ala	Val	Ser	Pro	Cys	230	235	240	

Gly	Arg	Phe	Val	Ala	Ser	Cys	Gly	Phe	Thr	Pro	Asp	Val	Lys	Val	245	250	255
Trp	Glu	Val	Cys	Phe	Gly	Lys	Lys	Gly	Glu	Phe	Gln	Glu	Val	Val	260	265	270
Arg	Ala	Phe	Glu	Leu	Lys	Gly	His	Ser	Ala	Ala	Val	His	Ser	Phe	275	280	285
Ala	Phe	Ser	Asn	Asp	Ser	Arg	Arg	Met	Ala	Ser	Val	Ser	Lys	Asp	290	295	300
Gly	Thr	Trp	Lys	Leu	Trp	Asp	Thr	Asp	Val	Glu	Tyr	Lys	Lys	Lys	305	310	315
Gln	Asp	Pro	Tyr	Leu	Leu	Lys	Thr	Gly	Arg	Phe	Glu	Glu	Ala	Ala	320	325	330
Gly	Ala	Ala	Pro	Cys	Arg	Leu	Ala	Leu	Ser	Pro	Asn	Ala	Gln	Val	335	340	345
Leu	Ala	Leu	Ala	Ser	Gly	Ser	Ser	Ile	His	Leu	Tyr	Asn	Thr	Arg	350	355	360
Arg	Gly	Glu	Lys	Glu	Glu	Cys	Phe	Glu	Arg	Val	His	Gly	Glu	Cys	365	370	375
Ile	Ala	Asn	Leu	Ser	Phe	Asp	Ile	Thr	Gly	Arg	Phe	Leu	Ala	Ser	380	385	390
Cys	Gly	Asp	Arg	Ala	Val	Arg	Leu	Phe	His	Asn	Thr	Pro	Gly	His	395	400	405
Arg	Ala	Met	Val	Glu	Glu	Met	Gln	Gly	His	Leu	Lys	Arg	Ala	Ser	410	415	420
Asn	Glu	Ser	Thr	Arg	Gln	Arg	Leu	Gln	Gln	Gln	Leu	Thr	Gln	Ala	425	430	435
Gln	Glu	Thr	Leu	Lys	Ser	Leu	Gly	Ala	Leu	Lys	Lys				440	445	

<210> 370  
 <211> 1415  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
 tggcctcccc agcttgccag gcacaaggct gagcgggagg aagcgagagg 50  
 catctaagca ggcagtgttt tgccttcacc ccaagtgacc atgagaggtg 100  
 ccacgcgagt ctcaatcatg ctctcctag taactgtgtc tgactgtgct 150  
 gtgatcacag gggcctgtga gcgggatgtc cagtgtgggg caggcacctg 200  
 ctgtgccatc agcctgtggc ttcgagggtc gcggatgtgc accccgctgg 250  
 ggcgggaagg cgaggagtgc caccgccgca gccacaaggt ccccttcttc 300  
 aggaaacgca agcaccacac ctgtccttgc ttgcccaacc tgctgtgctc 350  
 caggttcccg gacggcaggt accgctgctc catggacttg aagaacatca 400

atttttaggc gottgcctgg tctcaggata cccaccatcc ttttcctgag 450  
 cacagcctgg atttttatatt ctgccatgaa acccagctcc catgactctc 500  
 ccagtcccta cactgactac cctgatctct ottgtctagt acgcacatat 550  
 gcacacaggc agacatacct cccatcatga catgggtccc aggctggcct 600  
 gaggatgtca cagcttgagg ctgtggtgtg aaaggtggcc agcctgggtc 650  
 tcttccctgc tcaggctgcc agagaggtgg taaatggcag aaaggacatt 700  
 cccctcccc tcccaggtg acctgctctc tttcctgggc cctgcccctc 750  
 tccccacatg tatccctcgg tctgaattag acattcctgg gcacaggctc 800  
 ttgggtgcat tgctcagagt cccaggctct ggctgaccc tcaggccctt 850  
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 tggttaactc cttagtttca gaccacagac tcaagattgg ctcttcccag 950  
 agggcagcag acagtcaccc caaggcaggt gtagggagcc cagggaggcc 1000  
 aatcagcccc ctgaagactc tgggtcccagt cagcctgtgg cttgtggcct 1050  
 gtgacctgtg accttctgcc agaattgtca tgctctgag gccccctctt 1100  
 accacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150  
 cattaaaatg caaatggtgg tggttcaatc taatctgata ttgacatatt 1200  
 agaaggcaat tagggtgttt ccttaaaca ctcctttcca aggatcagcc 1250  
 ctgagagcag gttggtgact ttgaggaggg cagtcctctg tccagattgg 1300  
 ggtgggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350  
 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaag 1400  
 caccaactga aaaaa 1415

<210> 371  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 371  
 Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr  
 1 5 10 15  
 Val Ser Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val  
 20 25 30  
 Gln Cys Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg  
 35 40 45  
 Gly Leu Arg Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys  
 50 55 60  
 His Pro Gly Ser His Lys Val Pro Phe Phe Arg Lys Arg Lys His  
 65 70 75

His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro
				80					85					90
Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe
				95					100					105

<210> 372  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 372  
 agcgcccggg cgtcggggcg gtaaaaggcc ggcagaaggg aggcacttga 50  
 gaaatgtctt tcctccagga cccaagtttc ttcacatggt ggatgtgggc 100  
 cattggtgca ggagccctgg gggctgctgc cttggcattg ctgcttgcca 150  
 acacagacgt gtttctgtcc aagccccaga aagcggccct ggagtacctg 200  
 gaggatatag acctgaaaac actggagaag gaaccaagga ctttcaaagc 250  
 aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300  
 caggctgttt cctctgtoga gaggaagctg cggatctgtc ctccctgaaa 350  
 agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400  
 catcaggact gaagtgaagg atttcagcc ttatttcaaa ggagaaatct 450  
 tcctggatga aaagaaaaag ttctatgggc caciaaggcg gaagatgatg 500  
 tttatgggat ttatccgtct gggagtgtgg tacaacttct tccgagcctg 550  
 gaacggaggc ttctctggaa aactggaagg agaaggcttc atccttgggg 600  
 gagttttcgt ggtgggatca ggaaagcagg gcattcttct tgagcaccga 650  
 gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggagctgc 700  
 taagatgata aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750  
 aaactgcca gctcagggat aaccaggac attcacctgt gttcatggga 800  
 tgtattgttt ccactcgtgt ccctaaggag tgagaaacc atttatactc 850  
 tactctcagt atggattatt aatgtatttt aatattctgt ttaggccac 900  
 taaggcaaaa tagccccaaa acaagactga caaaaatctg aaaaactaat 950  
 gaggattatt aagctaaaac ctgggaaata ggaggcttaa aattgactgc 1000  
 caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggaggcc 1050  
 aagtgagca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
 atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggg 1150  
 ggcaggcacc tgtagtccca gctaccggg aggctgaggc aggagaatca 1200  
 cttgaacctg ggaggtggag gttgcgggtg gctgagatca caccactgta 1250  
 ttccagcctg ggtgactgag actctaacta a 1281

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373  
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp  
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 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Ala Leu Ala Leu Leu  
 20 25 30  
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala  
 35 40 45  
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu  
 50 55 60  
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala  
 65 70 75  
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu  
 80 85 90  
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu  
 95 100 105  
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu  
 110 115 120  
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp  
 125 130 135  
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe  
 140 145 150  
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala  
 155 160 165  
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile  
 170 175 180  
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu  
 185 190 195  
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu  
 200 205 210  
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala  
 215 220 225  
 Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374  
 acggaccgag ggttcgaggg agggacacgg accaggaacc tgagctaggt 50  
 caaagacgcc cgggccaggt gccccgtcgc aggtgcccct ggccggagat 100

gcggtaggag gggcgagcgc gagaagcccc ttcctcggcg ctgccaaccc 150  
gccaccagc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgccgttc ctgctggccc gctggggcgg agcctggggg caaatacaga 250  
ccacttctgc aaatgagaat agcactgttt tgccttcata caccagctcc 300  
agctccgatg gcaacctgcg tccggaagcc atcactgcta tcatcgtggg 350  
cttctccctc ttggctgcct tgctcctggc tgtggggctg gcaactgttg 400  
tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500  
caaggagacg gtgcagggct gcctgcccac ctaggtcccc tctcctgcat 550  
ctgtctccct tcattgctgt gtgaccttgg ggaaaggcag tgccctctct 600  
gggcagtcag atccaccag tgcttaatat cagggaagaa ggtacttcaa 650  
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 375  
Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro  
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Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr  
20 25 30  
Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser  
35 40 45  
Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60  
Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly  
65 70 75  
Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90  
Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105  
Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120  
Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
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Ser Cys Ile Asp	Glu Val Lys Gln Ser	Gly Ala Ile Val His	Phe		
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<211> 3877

<212> DNA

<213> Homo sapiens

<400> 380

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Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser  
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Glu	Asn	Ser	Pro	Asn	His	Arg	Pro	Tyr	Thr	Ala	Ser	Asp	Phe	Ile	200	205	210
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Leu	Asn	Met	Ala	Asn	Thr	Leu	Ile	Asn	Val	Ile	Val	Pro	Leu	Ala	260	265	270
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Val	His	Leu	Tyr	Arg	Lys	Tyr	Leu	His	Ser	Asn	Leu	Ile	Val	Val
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<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

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<223> Synthetic oligonucleotide probe

<400> 383

gcgaagggtga gcctctatct cgtgcc 26

<210> 384

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 384

cagcctacac gtattgagg 19

<210> 385

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 385

cagtcagtac aatcctggca taatatacgg ccaccatgat gcagtccc 48

<210> 386

<211> 1346

<212> DNA

<213> Homo sapiens

<400> 386

gaaagaatgt tgtggctgct cttttttctg gtgactgccca ttcattgctga 50

actctgtcaa ccagggtgcag aaaatgcttt taaagtgaga cttagtatca 100

gaacagctct gggagataaa gcatatgcct gggataccaa tgaagaatac 150

ctcttcaaag cgatggtagc tttctccatg agaaaagttc ccaacagaga 200

agcaacagaa atttcccatg tctacttttg caatgtaacc cagaggggtat 250

cattctgggt tgtggttaca gacccttcaa aaaatcacac ctttctgct 300

gttgaggtgc aatcagccat aagaatgaac aagaaccgga tcaacaatgc 350

cttcttttcta aatgaccaa ctctggaatt tttaaaaatc ctttccacac 400

ttgcaccacc catggacca tctgtgcccc tctggattat tatatttgggt 450

gtgatatttt gcatcatcat agttgcaatt gcactactga ttttatcagg 500

gatctggcaa cgtagaagaa agaacaaaga accatctgaa gtggatgacg 550

ctgaagataa gtgtgaaaac atgatcacia ttgaaaatgg catcccctct 600

gatcccctgg acatgaagg gggcatatta atgatgcctt catgacagag 650

gatgagaggc tcaccctct ctgaagggt gttgttctgc ttctcaaga 700

aattaaacat ttgtttctgt gtgactgctg agcatcctga aataccaaga 750

gcagatcata tattttgttt caccattctt cttttgtaat aaattttgaa 800

tgtgcttgaa agtgaaaagc aatcaattat accaccaac accactgaaa 850

tcataagcta ttcacgactc aaaatattct aaaatatttt tctgacagta 900

tagtgtataa atgtggtcat gtggtatttg tagttattga tttaagcatt 950

tttagaaata agatcaggca tatgtatata ttttcacact tcaaagacct 1000

aaggaaaaat aaattttcca gtggagaata catataatat ggtgtagaaa 1050

tcattgaaaa tggatccttt ttgacgatca cttatatcac tctgtatatg 1100

actaagtaaa caaaagttag aagtaattat tgtaaatgga tggataaaaa 1150

tggaattact catatacagg gtggaatttt atcctgttat cacaccaaca 1200

gttgattata tattttctga atatcagccc ctaataggac aattctattt 1250

gttgaccatt tctacaattt gtaaaagtcc aatctgtgct aacttaataa 1300

agtaataatc atctcttttt aaaaaaaaaa aaaaaaaaaa aaaaaa 1346

<210> 387

<211> 212

<212> PRT

<213> Homo sapiens

<400> 387

Met	Leu	Trp	Leu	Leu	Phe	Phe	Leu	Val	Thr	Ala	Ile	His	Ala	Glu
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Leu	Cys	Gln	Pro	Gly	Ala	Glu	Asn	Ala	Phe	Lys	Val	Arg	Leu	Ser
				20					25					30

Ile	Arg	Thr	Ala	Leu	Gly	Asp	Lys	Ala	Tyr	Ala	Trp	Asp	Thr	Asn
				35					40					45

Glu	Glu	Tyr	Leu	Phe	Lys	Ala	Met	Val	Ala	Phe	Ser	Met	Arg	Lys
				50					55					60

Val	Pro	Asn	Arg	Glu	Ala	Thr	Glu	Ile	Ser	His	Val	Leu	Leu	Cys
				65					70					75

Asn	Val	Thr	Gln	Arg	Val	Ser	Phe	Trp	Phe	Val	Val	Thr	Asp	Pro
				80					85					90

Ser	Lys	Asn	His	Thr	Leu	Pro	Ala	Val	Glu	Val	Gln	Ser	Ala	Ile
				95					100					105

Arg	Met	Asn	Lys	Asn	Arg	Ile	Asn	Asn	Ala	Phe	Phe	Leu	Asn	Asp
				110					115					120

Gln	Thr	Leu	Glu	Phe	Leu	Lys	Ile	Pro	Ser	Thr	Leu	Ala	Pro	Pro
				125					130					135

Met	Asp	Pro	Ser	Val	Pro	Ile	Trp	Ile	Ile	Ile	Phe	Gly	Val	Ile
				140					145					150

Phe	Cys	Ile	Ile	Ile	Val	Ala	Ile	Ala	Leu	Leu	Ile	Leu	Ser	Gly
				155					160					165

Ile	Trp	Gln	Arg	Arg	Arg	Lys	Asn	Lys	Glu	Pro	Ser	Glu	Val	Asp
				170					175					180

Asp	Ala	Glu	Asp	Lys	Cys	Glu	Asn	Met	Ile	Thr	Ile	Glu	Asn	Gly
				185					190					195

Ile	Pro	Ser	Asp	Pro	Leu	Asp	Met	Lys	Gly	Gly	Ile	Leu	Met	Met
				200					205					210

Pro Ser

<210> 388

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 388

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ggccttggca ggggtgttga gccctcggtc tgccccgtcc ggtctctggg 100  
 gccaaggctg ggtttccctc atgtatggca agagctctac tcgtgcggtg 150  
 cttcttctcc ttggcataca gctcacagct ctttggccta tagcagctgt 200  
 ggaaatttat acctcccggg tgctggaggc tgttaatggg acagatgctc 250  
 ggttaaaatg cactttctcc agctttgccc ctgtgggtga tgctctaaca 300  
 gtgacctgga attttcgtcc tctagacggg ggacctgagc agtttgtatt 350  
 ctactaccac atagatccct tccaacccat gagtgggagg ttttaaggacc 400  
 ggggtgtcttg ggatgggaat cctgagcggg acgatgcctc catccttctc 450  
 tggaaactgc agttcgacga caatgggaca tacacctgcc aggtgaagaa 500  
 cccacctgat gttgatgggg tgatagggga gatccggctc agcgtcgtgc 550  
 aactgtacg cttctctgag atccacttcc tggctctggc cattggctct 600  
 gcctgtgcac tgatgatcat aatagtaatt gtagtgggtc tcttccagca 650  
 ttaccgaaa aagcgtatgg ccgaaagagc tcataaagtg gtggagataa 700  
 aatcaaaaga agaggaaaagg ctcaaccaag agaaaaaggc ctctgtttat 750  
 ttagaagaca cagactaaca attttagatg gaagctgaga tgatttccaa 800  
 gaacaagaac cctagtattt cttgaagtta atggaaactt ttctttgggt 850  
 tttccagttg tgaccggtt tccaaccagt tctgcagcat attagattct 900  
 agacaagcaa caccctctg gagccagcac agtgctcctc catatcacca 950  
 gtcatacaca gcctcattat taaggcttta ttttaatttca gagtgtaaat 1000  
 tttttcaagt gctcattagg ttttataaac aagaagctac atttttgccc 1050  
 ttaagacact acttacagtg ttatgacttg tatacacata tattgggtatc 1100  
 aaaggggata aaagccaatt tgtctgttac atttcctttc acgtatttct 1150  
 tttagcagca cttctgttac taaagttaat gtgtttactc tctttccttc 1200  
 ccacattctc aattaaaagg tgagctaagc ctctcggtg tttctgatta 1250  
 acagtaaadc ctaaattcaa actgtttaaact gacattttta tttttatgtc 1300  
 tctccttaac tatgagacac atcttgtttt actgaatttc tttcaatatt 1350  
 ccaggtgata gatttttgtc g 1371

<210> 389  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 389  
 Met Tyr Gly Lys Ser Ser Thr Arg Ala Val Leu Leu Leu Leu Gly  
 1 5 10 15

Ile	Gln	Leu	Thr	Ala	Leu	Trp	Pro	Ile	Ala	Ala	Val	Glu	Ile	Tyr	
				20					25					30	
Thr	Ser	Arg	Val	Leu	Glu	Ala	Val	Asn	Gly	Thr	Asp	Ala	Arg	Leu	
				35					40					45	
Lys	Cys	Thr	Phe	Ser	Ser	Phe	Ala	Pro	Val	Gly	Asp	Ala	Leu	Thr	
				50					55					60	
Val	Thr	Trp	Asn	Phe	Arg	Pro	Leu	Asp	Gly	Gly	Pro	Glu	Gln	Phe	
				65					70					75	
Val	Phe	Tyr	Tyr	His	Ile	Asp	Pro	Phe	Gln	Pro	Met	Ser	Gly	Arg	
				80					85					90	
Phe	Lys	Asp	Arg	Val	Ser	Trp	Asp	Gly	Asn	Pro	Glu	Arg	Tyr	Asp	
				95					100					105	
Ala	Ser	Ile	Leu	Leu	Trp	Lys	Leu	Gln	Phe	Asp	Asp	Asn	Gly	Thr	
				110					115					120	
Tyr	Thr	Cys	Gln	Val	Lys	Asn	Pro	Pro	Asp	Val	Asp	Gly	Val	Ile	
				125					130					135	
Gly	Glu	Ile	Arg	Leu	Ser	Val	Val	His	Thr	Val	Arg	Phe	Ser	Glu	
				140					145					150	
Ile	His	Phe	Leu	Ala	Leu	Ala	Ile	Gly	Ser	Ala	Cys	Ala	Leu	Met	
				155					160					165	
Ile	Ile	Ile	Val	Ile	Val	Val	Val	Leu	Phe	Gln	His	Tyr	Arg	Lys	
				170					175					180	
Lys	Arg	Trp	Ala	Glu	Arg	Ala	His	Lys	Val	Val	Glu	Ile	Lys	Ser	
				185					190					195	
Lys	Glu	Glu	Glu	Arg	Leu	Asn	Gln	Glu	Lys	Lys	Val	Ser	Val	Tyr	
				200					205					210	
Leu	Glu	Asp	Thr	Asp											
				215											

<210> 390  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 390  
 ccgaggccat ctagaggcca gagc 24

<210> 391  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 391  
 acaggcagag ccaatggcca gagc 24

<210> 392  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 392  
 gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393  
 <211> 471  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 gcatttttgt ctgtgctccc tgatcttcag gtcaccacca tgaagttctt 50  
 agcagtccctg gtactcttgg gagtttccat ctttctgggc tctgcccaga 100  
 atccgacaac agctgctcca gctgacacgt atccagctac tggctcctgct 150  
 gatgatgaag cccctgatgc tgaaccact gctgctgcaa ccactgcgac 200  
 cactgctgct cctaccactg caaccaccgc tgcttctacc actgctcgta 250  
 aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
 gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
 tattcatgct tctgtgatt tcatccaact acttaccttg cctacgatat 400  
 cccctttatc tctaactcagt ttattttctt tcaaataaaa aataactatg 450  
 agcaacataa aaaaaaaaaa a 471

<210> 394  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 394  
 Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
 1 5 10 15  
 Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
 20 25 30  
 Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
 35 40 45  
 Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr  
 50 55 60  
 Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
 65 70 75  
 Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
 80 85 90

<210> 395  
 <211> 25

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 395  
gctccctgat cttcatgtca ccacc 25

<210> 396  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
cagggacaca ctctaccatt cgggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatctttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
ggactctgaa ggtcccaagc agctgctgag gcccccaagg aagtgggtcc 50  
aaccttggac ccctaggggt ctggatttgc tggttaacaa gataacctga 100  
gggcaggacc ccatagggga atgctacctc ctgcccttcc acctgccctg 150  
gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttgttacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agaggggtctt 350  
ggccagtcca ggggtggggg cggcaaactc cataaagaac cagaggggtct 400  
gggccccggc cacagagtca tctgccagc tctctgctg ctggccagtg 450  
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gcctgcgggc catggctcct gtctagggca gcaattctca accttcttgc 550  
tctcaggacc ccaaagagct ttcatgtat ctattgattt ttaccacatt 600  
agcaattaaa actgagaaat gggccgggca cgggtggctca cgctgtaat 650

cccagcactt tgggaggccg aggcgggtgg atcacctgag atcaggagtt 700  
 caagaccagc ctggccaaca tggtgaaacc ttgtctacta aaaatacaaa 750  
 aaattagcca ggcacagtgg tgtgcaactg tagtcccagt tactcgggag 800  
 gctgaggcag gaaaatcgct tgaaccagg aggcggacgt tgcggtgagc 850  
 cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900  
 tcacaca 907

<210> 399  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 399  
 Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
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 Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
                   20                  25                  30  
 Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
                   35                  40                  45  
 Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
                   50                  55                  60  
 Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
                   65                  70                  75  
 Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
                   80                  85                  90  
 Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
                   95                  100                  105  
 Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
                   110                  115                  120

<210> 400  
 <211> 893  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
 gtcatgccag tgcctgctct gtgcctgctc tgggccctgg caatggtgac 50  
 ccggcctgcc tcagcggccc ccatgggcgg ccagaaactg gcacagcatg 100  
 aggagctgac cctgctcttc catgggaccc tgcagctggg ccaggccctc 150  
 aacggtgtgt acaggaccac ggaggggacgg ctgacaaagg ccaggaacag 200  
 cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250  
 ggggccggga tgcagcccag gaacttcggg caagcctgtt ggagactcag 300  
 atggaggagg atattctgca gctgcaggca gaggccacag ctgaggtgct 350  
 gggggaggtg gccaggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcca gctgaggagc gcctggctgg gccctgccta ccgagaattt 450  
 gaggtcttaa aggctcacgc tgacaagcag agccacatcc tatgggccct 500  
 cacaggccac gtgcagcggc agaggcggga gatggtggca cagcagcatc 550  
 ggctgcgaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
 atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttcca 650  
 cgccccgtga ggccccctgtg cagggaggag ctgcctgttc actgggatca 700  
 gccagggcgc cgggccccac ttctgagcac agagcagaga cagacgcagg 750  
 cggggacaaa ggcagaggat gtagcccat tggggagggg tggaggaagg 800  
 acatgtaccc ttctatgcct acacaccct cattaagca gagtcgtggc 850  
 atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
 1 5 10 15  
 Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
 20 25 30  
 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
 35 40 45  
 Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
 50 55 60  
 Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
 65 70 75  
 Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
 80 85 90  
 Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
 95 100 105  
 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
 110 115 120  
 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
 125 130 135  
 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
 140 145 150  
 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
 155 160 165  
 Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
 170 175 180  
 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402  
 <211> 1915  
 <212> DNA  
 <213> Homo sapiens

<400> 402  
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 acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
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 aagttcacia gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 caggtgtcaa tgacttttgg ctgggcatca atgacatggc cacggaaggc 450  
 aagtttggtg acgtcaacgg aatcgctatc tccttcctca actgggaccg 500  
 tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600  
 atatgcgagt tcaccatccc taaataggtc tttctccaat gtgtcctcca 650  
 agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
 aatcataatt ttactttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800  
 tgcccttcct ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcacttgtag aaaccagtt tgttttcaaa aatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agottaggct acctgaaaga ttttccttg 1000  
 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgctata taatccaaaa acttttcagc ctgttgctca ttctgtccca 1100  
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 atctcctggt gggacttgta tottgctctgc catatcagaa caciaacccc 1200  
 tgaagagggt ctgatttgat tttttttttt tcttcatgcc tacccttttt 1250  
 ttggaagttt ccagccgcaa tttgaaatga aatgacaagg tgtatatattg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
 accctaaggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
 aaaagaacct acattttattt tgcttttagca tccttactct cacctttttat 1450  
 gagattgaga gtggacttac atttcctttt ttacattttc gtatatattat 1500  
 ttttttttagc catcattata tgtttaagtc tattatgggc aaccaatctt 1550  
 tggaagctga aaactgaatt taaagaatgc tatcttggaa aattgcatac 1600  
 gtctgtgcaa tttttttattc tgccatgtgc tattctgctt gtttaactag 1650  
 attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
 tggaggggaaa tgggcttttt agaagcaaac aatttttaa atattttgtt 1750  
 cttcaaataa atagtgttta aacattgaat gtgttttgtg aacaatatcc 1800  
 cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
 tcattgctca ataataaagc ctgaattctg atcaataaaa aaaaaaaaaa 1900  
 aaaaaaaaaa aaaaa 1915

<210> 403  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 403  
 Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
 1 5 10 15  
 Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
 20 25 30  
 Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
 35 40 45  
 Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
 50 55 60  
 Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
 65 70 75  
 Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
 80 85 90  
 Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
 95 100 105  
 Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
 110 115 120  
 Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
 125 130 135  
 Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
 140 145 150  
 Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

	155		160		165									
Ala	Gln	Pro	Asn	Gly	Gly	Lys	Arg	Glu	Asn	Cys	Val	Leu	Phe	Ser
			170						175					180
Gln	Ser	Ala	Gln	Gly	Lys	Trp	Ser	Asp	Glu	Ala	Cys	Arg	Ser	Ser
			185						190					195
Lys	Arg	Tyr	Ile	Cys	Glu	Phe	Thr	Ile	Pro	Lys				
			200						205					

<210> 404  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 404  
 cctggttatc cccaggaact ccgac 25

<210> 405  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 405  
 ctcttgctgc tgcgacaggc ctc 23

<210> 406  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 406  
 cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46

<210> 407  
 <211> 570  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50  
 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100  
 ggctctgcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tcggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200  
 ggccggggcc gggaccctgg ccaacccct cggcaccctc aaccgctga 250  
 agtccttgcg gagcagcctg ggcatccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350

ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgagggtga 450  
 aaaccccgcc ggggggagga ccgtccatcc ctttcccccg gccctctca 500  
 ataaacgtgg ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
   1                  5                  10                  15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
                   20                  25                  30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
                   35                  40                  45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
                   50                  55                  60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
                   65                  70                  75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
                   80                  85                  90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
                   95                  100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409  
 tgaaggactt ttccaggacc caaggccaca cactggaagt cttgcagctg 50  
 aaggagggca ctccttggcc tccgcagccg atcacatgaa ggtggtgcc 100  
 agtctcctgc tctccgtcct cctggcacag gtgtggctgg tacccggctt 150  
 ggccccagt cctcagtcgc cagagacccc agcccctcag aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggccgtga ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaggaga cttcaaactt cggattcagc ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg tcttctctcc atttggcatg 400  
 tccttggcca tgacaggctt gatgctgggg gccacagggc cgactgaaac 450  
 ccagatcaag agagggtccc acttgcaggc cctgaagccc accaagccc 500

ggctcctgcc ttccctottt aagggactca gagagaccct ctcccgaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600  
 tgatgtcaaa gagactttct tcaattttatc caagaggtat tttgatacag 650  
 agtgcgtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaaatg gttgaccca tttgaccctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccatga tgtacggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcccta ccaaggaaat gccaccatgc tgggtgtcct catggagaaa 1000  
 atgggtgacc acctgcacct tgaagactac ctgaccacag acttgggtga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagtt ttctttccga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150  
 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccaggtt tttacgaaga acagtgattg 1250  
 aagttgatga aaggggcaact gaggcagtgg caggaatctt gtcagaaatt 1300  
 actgcttatt ccattgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcagggtgg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttcgtgctgt 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc ttttgttctt aactagttaa ggggtgttctc 1550  
 aaataaatac agtagtcccc acttatctga gggggataca ttcaaagacc 1600  
 cccagcagat gcctgaaacg gtggacagtg ctgaacctta tatatatattt 1650  
 ttctacaca tacataccta tgataaagtt taattttataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtgactca tgggagagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacgatgc aagattccat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgtttatattc 1950  
 tggaattttt catttaatgt ttttggaaca tggttgacca tggttaactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

<210> 410  
 <211> 444  
 <212> PRT  
 <213> Homo sapiens

<400> 410

Met	Lys	Val	Val	Pro	Ser	Leu	Leu	Leu	Ser	Val	Leu	Leu	Ala	Gln
1				5					10					15
Val	Trp	Leu	Val	Pro	Gly	Leu	Ala	Pro	Ser	Pro	Gln	Ser	Pro	Glu
				20					25					30
Thr	Pro	Ala	Pro	Gln	Asn	Gln	Thr	Ser	Arg	Val	Val	Gln	Ala	Pro
				35					40					45
Arg	Glu	Glu	Glu	Glu	Asp	Glu	Gln	Glu	Ala	Ser	Glu	Glu	Lys	Ala
				50					55					60
Gly	Glu	Glu	Glu	Lys	Ala	Trp	Leu	Met	Ala	Ser	Arg	Gln	Gln	Leu
				65					70					75
Ala	Lys	Glu	Thr	Ser	Asn	Phe	Gly	Phe	Ser	Leu	Leu	Arg	Lys	Ile
				80					85					90
Ser	Met	Arg	His	Asp	Gly	Asn	Met	Val	Phe	Ser	Pro	Phe	Gly	Met
				95					100					105
Ser	Leu	Ala	Met	Thr	Gly	Leu	Met	Leu	Gly	Ala	Thr	Gly	Pro	Thr
				110					115					120
Glu	Thr	Gln	Ile	Lys	Arg	Gly	Leu	His	Leu	Gln	Ala	Leu	Lys	Pro
				125					130					135
Thr	Lys	Pro	Gly	Leu	Leu	Pro	Ser	Leu	Phe	Lys	Gly	Leu	Arg	Glu
				140					145					150
Thr	Leu	Ser	Arg	Asn	Leu	Glu	Leu	Gly	Leu	Ser	Gln	Gly	Ser	Phe
				155					160					165
Ala	Phe	Ile	His	Lys	Asp	Phe	Asp	Val	Lys	Glu	Thr	Phe	Phe	Asn
				170					175					180
Leu	Ser	Lys	Arg	Tyr	Phe	Asp	Thr	Glu	Cys	Val	Pro	Met	Asn	Phe
				185					190					195
Arg	Asn	Ala	Ser	Gln	Ala	Lys	Arg	Leu	Met	Asn	His	Tyr	Ile	Asn
				200					205					210
Lys	Glu	Thr	Arg	Gly	Lys	Ile	Pro	Lys	Leu	Phe	Asp	Glu	Ile	Asn
				215					220					225
Pro	Glu	Thr	Lys	Leu	Ile	Leu	Val	Asp	Tyr	Ile	Leu	Phe	Lys	Gly
				230					235					240
Lys	Trp	Leu	Thr	Pro	Phe	Asp	Pro	Val	Phe	Thr	Glu	Val	Asp	Thr
				245					250					255
Phe	His	Leu	Asp	Lys	Tyr	Lys	Thr	Ile	Lys	Val	Pro	Met	Met	Tyr
				260					265					270
Gly	Ala	Gly	Lys	Phe	Ala	Ser	Thr	Phe	Asp	Lys	Asn	Phe	Arg	Cys
				275					280					285

His	Val	Leu	Lys	Leu	Pro	Tyr	Gln	Gly	Asn	Ala	Thr	Met	Leu	Val	290	295	300
Val	Leu	Met	Glu	Lys	Met	Gly	Asp	His	Leu	Ala	Leu	Glu	Asp	Tyr	305	310	315
Leu	Thr	Thr	Asp	Leu	Val	Glu	Thr	Trp	Leu	Arg	Asn	Met	Lys	Thr	320	325	330
Arg	Asn	Met	Glu	Val	Phe	Phe	Pro	Lys	Phe	Lys	Leu	Asp	Gln	Lys	335	340	345
Tyr	Glu	Met	His	Glu	Leu	Leu	Arg	Gln	Met	Gly	Ile	Arg	Arg	Ile	350	355	360
Phe	Ser	Pro	Phe	Ala	Asp	Leu	Ser	Glu	Leu	Ser	Ala	Thr	Gly	Arg	365	370	375
Asn	Leu	Gln	Val	Ser	Arg	Val	Leu	Arg	Arg	Thr	Val	Ile	Glu	Val	380	385	390
Asp	Glu	Arg	Gly	Thr	Glu	Ala	Val	Ala	Gly	Ile	Leu	Ser	Glu	Ile	395	400	405
Thr	Ala	Tyr	Ser	Met	Pro	Pro	Val	Ile	Lys	Val	Asp	Arg	Pro	Phe	410	415	420
His	Phe	Met	Ile	Tyr	Glu	Glu	Thr	Ser	Gly	Met	Leu	Leu	Phe	Leu	425	430	435
Gly	Arg	Val	Val	Asn	Pro	Thr	Leu	Leu							440		

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
 ctgggatcag ccaactgcagc tccctgagca ctctctacag agacgcggac 50  
 cccagacatg aggaggctcc tcttggtcac cagcctggtg gttgtgctgc 100  
 tgtgggagggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaacact ggccctcaga gcaggaccca gagaaggcct ggggcgcccg 200  
 tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccttg 250  
 tccagaagcc gaaactcttg accaaccgagg agaagccacg aggtcagggc 300  
 aggggcccga tccttcacagg caccaaggcc tggatggaga ccgaggacac 350  
 cctgggccgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatacacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 ccacccccag tagggctcca ggggccatca ctgccccgcg cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc taccctgccc cagctagaca 600



aataaacccc agcaggcaaa aaaaaaaaaa aaaaaa 636

<210> 412  
<211> 151  
<212> PRT  
<213> Homo sapiens

<400> 412  
Met Arg Arg Leu Leu Leu Val Thr Ser Leu Val Val Val Leu Leu  
1 5 10 15  
Trp Glu Ala Gly Ala Val Pro Ala Pro Lys Val Pro Ile Lys Met  
20 25 30  
Gln Val Lys His Trp Pro Ser Glu Gln Asp Pro Glu Lys Ala Trp  
35 40 45  
Gly Ala Arg Val Val Glu Pro Pro Glu Lys Asp Asp Gln Leu Val  
50 55 60  
Val Leu Phe Pro Val Gln Lys Pro Lys Leu Leu Thr Thr Glu Glu  
65 70 75  
Lys Pro Arg Gly Gln Gly Arg Gly Pro Ile Leu Pro Gly Thr Lys  
80 85 90  
Ala Trp Met Glu Thr Glu Asp Thr Leu Gly Arg Val Leu Ser Pro  
95 100 105  
Glu Pro Asp His Asp Ser Leu Tyr His Pro Pro Pro Glu Glu Asp  
110 115 120  
Gln Gly Glu Glu Arg Pro Arg Leu Trp Val Met Pro Asn His Gln  
125 130 135  
Val Leu Leu Gly Pro Glu Glu Asp Gln Asp His Ile Tyr His Pro  
140 145 150  
Gln

<210> 413  
<211> 1176  
<212> DNA  
<213> Homo sapiens

<400> 413  
agaaagctgc actctgttga gctccagggc gcagtggagg gagggagtga 50  
aggagctctc tgtaccaag gaaagtgcag ctgagactca gacaagatta 100  
caatgaacca actcagcttc ctgctgtttc tcatagcgac caccagagga 150  
tggagtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200  
gtctccatct ctgccagaa gctgcaagga aatcaaagac gaatgtccta 250  
gtgcatttga tggcctgtat tttctccgca ctgagaatgg tgttatctac 300  
cagaccttct gtgacatgac ctctgggggt ggcggctgga ccctggtggc 350  
cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcgatcgct 400

ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450  
 tgggccaaact acaacacctt tggatctgca gaggcggcca cgagcgatga 500  
 ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550  
 ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600  
 ctgaggtacc gcacggacac tggcttcctc cagacactgg gacataatct 650  
 gtttggcatc taccagaaat atccagtga atattggagaa ggaaagtgtt 700  
 ggactgacaa cggcccgggtg atccctgtgg tctatgattt tggcgacgcc 750  
 cagaaaacag catcttatta ctcaccctat ggccagcggg aattcactgc 800  
 gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850  
 tgtgtgctgg aatgaggggtc accggatgta aactgagca tcaactgcatt 900  
 ggtggaggag gatactttcc agaggccagt cccagcagt gtggagattt 950  
 ttctggtttt gattggagtg gatatggaac tcatgttggg tacagcagca 1000  
 gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050  
 tgtgggaggg aaccagacc tctcctccca accatgagat cccaaggatg 1100  
 gagaacaact taccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150  
 taaatcatat tgactcaaga aaaaaa 1176

<210> 414  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 414  
 Met Asn Gln Leu Ser Phe Leu Leu Phe Leu Ile Ala Thr Thr Arg  
 1 5 10 15  
 Gly Trp Ser Thr Asp Glu Ala Asn Thr Tyr Phe Lys Glu Trp Thr  
 20 25 30  
 Cys Ser Ser Ser Pro Ser Leu Pro Arg Ser Cys Lys Glu Ile Lys  
 35 40 45  
 Asp Glu Cys Pro Ser Ala Phe Asp Gly Leu Tyr Phe Leu Arg Thr  
 50 55 60  
 Glu Asn Gly Val Ile Tyr Gln Thr Phe Cys Asp Met Thr Ser Gly  
 65 70 75  
 Gly Gly Gly Trp Thr Leu Val Ala Ser Val His Glu Asn Asp Met  
 80 85 90  
 Arg Gly Lys Cys Thr Val Gly Asp Arg Trp Ser Ser Gln Gln Gly  
 95 100 105  
 Ser Lys Ala Asp Tyr Pro Glu Gly Asp Gly Asn Trp Ala Asn Tyr  
 110 115 120  
 Asn Thr Phe Gly Ser Ala Glu Ala Ala Thr Ser Asp Asp Tyr Lys

125	130	135
Asn Pro Gly Tyr Tyr Asp Ile Gln Ala	Lys Asp Leu Gly Ile Trp	
140	145	150
His Val Pro Asn Lys Ser Pro Met Gln	His Trp Arg Asn Ser Ser	
155	160	165
Leu Leu Arg Tyr Arg Thr Asp Thr Gly	Phe Leu Gln Thr Leu Gly	
170	175	180
His Asn Leu Phe Gly Ile Tyr Gln Lys	Tyr Pro Val Lys Tyr Gly	
185	190	195
Glu Gly Lys Cys Trp Thr Asp Asn Gly	Pro Val Ile Pro Val Val	
200	205	210
Tyr Asp Phe Gly Asp Ala Gln Lys Thr	Ala Ser Tyr Tyr Ser Pro	
215	220	225
Tyr Gly Gln Arg Glu Phe Thr Ala Gly	Phe Val Gln Phe Arg Val	
230	235	240
Phe Asn Asn Glu Arg Ala Ala Asn Ala	Leu Cys Ala Gly Met Arg	
245	250	255
Val Thr Gly Cys Asn Thr Glu His His	Cys Ile Gly Gly Gly Gly	
260	265	270
Tyr Phe Pro Glu Ala Ser Pro Gln Gln	Cys Gly Asp Phe Ser Gly	
275	280	285
Phe Asp Trp Ser Gly Tyr Gly Thr His	Val Gly Tyr Ser Ser Ser	
290	295	300
Arg Glu Ile Thr Glu Ala Ala Val Leu	Leu Phe Tyr Arg	
305	310	

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 cggctgggag cccacgaggc tgccgcattcc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tctgggggac gctgcaggtg 150  
 ctagcgctgc tggggggccgc ccatgaaagc gcagccatgg cggcatctgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgt aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccaccatg aaacctacag cggcattctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agttctacacc caaaacaaca 450  
 agtgtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550  
ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
gttggtggtta ttgtattaac gctgggagtt ttatctattc tttacattgg 650  
atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700  
aacatgatgc catcatitaa ggaaatccat ggaccaagga tggaatacag 750  
attgatgctg ccctatcaat taattttggt ttattaatag tttaaaacaa 800  
tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttggggtt 900  
tgaaataaac atctggatct tatagaccgt tcatacaatg gtttttagcaa 950  
gttcatagta agacaaacaa gtcctatctt ttttttttgg ctgggggtggg 1000  
ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
tttgggtatc ttttgtagct cacataaaga acttcagtgc ttttcagagc 1150  
tggatatatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200  
gatctgaagc ataatttaag aaaaacatca acattttttg tgcttttaaac 1250  
tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
<211> 208  
<212> PRT  
<213> Homo sapiens

<400> 416  
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
1 5 10 15  
Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
20 25 30  
Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
35 40 45  
Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
50 55 60  
Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
65 70 75  
Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
80 85 90  
Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
95 100 105  
Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
110 115 120  
Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val

Thr His Asn Ser Ser Val Thr Ser Ala Ala Ser Ser Val Thr Ile  
140 145 150  
Thr Thr Thr Met His Ser Glu Ala Lys Lys Gly Ser Lys Phe Asp  
155 160 165  
Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr Leu Gly Val Leu  
170 175 180  
Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser Arg Arg Gly  
185 190 195  
Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile  
200 205

<210> 417  
<211> 1728  
<212> DNA  
<213> Homo sapiens

<400> 417  
cagccgggtc ccaagcctgt gcctgagcct gagcctgagc ctgagcccga 50  
gccgggagcc ggtcgcgggg gctccgggct gtgggaccgc tgggccccca 100  
gcgatggcga ccctgtgggg aggccttctt cggcttggtt ccttgctcag 150  
cctgtcgtgc ctggcgcttt ccgtgctgct gctggcgagc ctgtcagacg 200  
ccgccaagaa ttctgaggat gtcagatgta aatgtatctg ccctccctat 250  
aaagaaaatt ctgggcatat ttataataag aacatatctc agaaagattg 300  
tgattgcctt catgttggtg agcccatgcc tgtgcggggg cctgatgtag 350  
aagcatactg tctacgctgt gaatgcaaat atgaagaaag aagctctgtc 400  
acaatcaagg ttaccattat aatttatctc tccattttgg gccttctact 450  
tctgtacatg gtatatctta ctctgggtga gcccatactg aagaggcgcc 500  
tctttggaca tgcacagttg atacagagtg atgatgatat tggggatcac 550  
cagccttttg caaatgcaca cgatgtgcta gcccgctccc gcagtcgagc 600  
caacgtgctg aacaaggtag aatatgcaca gcagcgctgg aagcttcaag 650  
tccaagagca gcgaaagtct gtctttgacc ggcatgttgt cctcagctaa 700  
ttgggaattg aattcaagggt gactagaaag aaacaggcag acaactggaa 750  
agaactgact gggttttgct gggtttcatt ttaatacctt gttgatttca 800  
ccaactgttg ctggaagatt caaaaactgga agcaaaaact tgcttgattt 850  
ttttttcttg ttaacgtaat aatagagaca tttttaaaag cacacagctc 900  
aaagtcagcc aataagtctt ttctattttg tgactttttac taataaaaaat 950  
aaatctgcct gtaaattatc ttgaagtctt ttacctggaa caagcactct 1000

ctttttcacc acatagtttt aacttgactt tcaagataat tttcaggggtt 1050  
 tttgttggtt ttgttttttg tttgtttggt ttggtgggag aggggagggg 1100  
 tgcttgaggaa gtgggttaaca acttttttca agtcacttta ctaaacaac 1150  
 ttttgtaaata agaccttacc ttctattttc gagtttcatt tatattttgc 1200  
 agtgtagcca gcctcatcaa agagctgact tactcatttg acttttgcac 1250  
 tgactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaatg cctgggtggct tttcacaaaa agcagatttt cttcatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca tttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggtctt actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 attttatttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggtcgtggt gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggctgg ggttggtggg gcctcttctg aaaggtctaa 1650  
 ccattattgg ataactggct ttttcttcc tatgtcctct ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
 Met Ala Thr Leu Trp Gly Gly Leu Leu Arg Leu Gly Ser Leu Leu  
 1 5 10 15  
 Ser Leu Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu  
 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135

His	Ala	Gln	Leu	Ile	Gln	Ser	Asp	Asp	Asp	Ile	Gly	Asp	His	Gln
				140					145					150
Pro	Phe	Ala	Asn	Ala	His	Asp	Val	Leu	Ala	Arg	Ser	Arg	Ser	Arg
				155					160					165
Ala	Asn	Val	Leu	Asn	Lys	Val	Glu	Tyr	Ala	Gln	Gln	Arg	Trp	Lys
				170					175					180
Leu	Gln	Val	Gln	Glu	Gln	Arg	Lys	Ser	Val	Phe	Asp	Arg	His	Val
				185					190					195
Val	Leu	Ser												

<210> 419  
 <211> 681  
 <212> DNA  
 <213> Homo sapiens

<400> 419  
 gcacctgcga ccaccgtgag cagtcatggc gtactccaca gtgcagagag 50  
 tcgctctggc ttctgggctt gtccctggctc tgctcgctgct gctgcccgaag 100  
 gccttcctgt cccgcgggaa gcggcaggag ccgccgccga cacctgaagg 150  
 aaaattgggc cgatttccac ctatgatgca tcatcaccag gcaccctcag 200  
 atggccagac tcctggggct cgtttccaga ggtctcacct tgccgaggca 250  
 ttgcaaagg ccaaaggatc aggtggagggt gctggaggag gaggtagtgg 300  
 aagaggctctg atggggcaga ttattccaat ctacggtttt gggatttttt 350  
 tatatatact gtacattcta tttaaggtaa gtagaatcat cctaatacata 400  
 ttacatcaat gaaaatctaa tatggcgata aaaatcattg tctacattaa 450  
 aacttcttat agttcataaa attatttcaa atccatcatc tctttaaatc 500  
 ctgcctcctc ttcattgaggt acttaggata gccattattt cagtttcaca 550  
 taagaatggt tactcaatgt ttaagtgttt tgccccaaaa ttcacaacta 600  
 acaaggcaga actaggactt gaacatggat cttttggttc ttaatccagt 650  
 gagtgatata attcaatgca ctcccctgcc a 681

<210> 420  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 420  
 Met Ala Tyr Ser Thr Val Gln Arg Val Ala Leu Ala Ser Gly Leu  
 1 5 10 15  
 Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg  
 20 25 30  
 Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly  
 35 40 45

Arg Phe Pro Pro Met Met His His His Gln Ala Pro Ser Asp Gly  
50 55 60

Gln Thr Pro Gly Ala Arg Phe Gln Arg Ser His Leu Ala Glu Ala  
65 70 75

Phe Ala Lys Ala Lys Gly Ser Gly Gly Gly Ala Gly Gly Gly Gly  
80 85 90

Ser Gly Arg Gly Leu Met Gly Gln Ile Ile Pro Ile Tyr Gly Phe  
95 100 105

Gly Ile Phe Leu Tyr Ile Leu Tyr Ile Leu Phe Lys Val Ser Arg  
110 115 120

Ile Ile Leu Ile Ile Leu His Gln  
125

<210> 421  
<211> 1630  
<212> DNA  
<213> Homo sapiens

<400> 421  
cggctcgagt gcagctgtgg ggagatttca gtgcattgcc tcccctgggt 50  
gctcttcac tttgatttga aagttgagag cagcatgttt tgcccactga 100  
aactcatcct gctgccagtg ttactggatt attccttggg cctgaatgac 150  
ttgaatgttt ccccgccctga gctaacagtc catgtgggtg attcagctct 200  
gatgggatgt gttttccaga gcacagaaga caaatgtata ttcaagatag 250  
actggactct gtcaccagga gagcacgcca aggacgaata tgtgctatac 300  
tattactcca atctcagtgt gcctattggg cgcttccaga accgcgtaca 350  
cttgatgggg gacatcttat gcaatgatgg ctctctcctg ctccaagatg 400  
tgcaagaggc tgaccaggga acctatatct gtgaaatccg cctcaaaggg 450  
gagagccagg tgttcaagaa ggcggtggta ctgcatgtgc ttccagagga 500  
gcccaaagag ctcatggtcc atgtgggtgg attgattcag atgggatgtg 550  
ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatattt 600  
tcaggacggc gcgcaaagga ggagattgta tttcgttact accacaaact 650  
caggatgtct gtggagtact cccagagctg gggccacttc cagaatcgtg 700  
tgaacctggg gggggacatt ttccgcaatg acggttccat catgcttcaa 750  
ggagtgaggg agtcagatgg aggaaactac acctgcagta tccacctagg 800  
gaacctggtg ttcaagaaaa ccattgtgct gcatgtcagc ccggaagagc 850  
ctcgaacaact ggtgaccccg gcagccctga ggccctctggt cttgggtggg 900  
aatcagttgg tgatcattgt ggggaattgtc tgtgccacaa tcctgctgct 950  
ccctgttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000



tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
aaagaaaaac cctgccattt tgaaagatgt gaaggggaga aacacattta 1100  
ctccccaata attgtacggg aggtgatcga ggaagaagaa ccaagtga 1150  
aatcagagggc cacctacatg accatgcacc cagtttgcc ttctctgagg 1200  
tcagatcgga acaactcact tgaaaaaag tcaggtggg gaatgccaaa 1250  
aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
gggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgatttc 1350  
agactccgc tctccagct gtcctcctgt ctcattgtt ggtcaatata 1400  
ctgaagatgg agaatttgga gcctggcaga gagactggac agctctggag 1450  
gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
aactggccc tgggaaccag gctgagctga gtggcctcaa accccccgtt 1550  
ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
gaatcagaga taaaaaccaa cccaaatcaa 1630

<210> 422  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 422  
Met Phe Cys Pro Leu Lys Leu Ile Leu Leu Pro Val Leu Leu Asp  
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Tyr Ser Leu Gly Leu Asn Asp Leu Asn Val Ser Pro Pro Glu Leu  
20 25 30  
Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln  
35 40 45  
Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser  
50 55 60  
Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser  
65 70 75  
Asn Leu Ser Val Pro Ile Gly Arg Phe Gln Asn Arg Val His Leu  
80 85 90  
Met Gly Asp Ile Leu Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp  
95 100 105  
Val Gln Glu Ala Asp Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu  
110 115 120  
Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val  
125 130 135  
Leu Pro Glu Glu Pro Lys Glu Leu Met Val His Val Gly Gly Leu  
140 145 150  
Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

	155	160	165
Thr Lys Val Glu Trp	Ile Phe Ser Gly	Arg Arg Ala Lys Glu	Glu
170		175	180
Ile Val Phe Arg Tyr	Tyr His Lys Leu	Arg Met Ser Val Glu	Tyr
185		190	195
Ser Gln Ser Trp Gly	His Phe Gln Asn	Arg Val Asn Leu Val	Gly
200		205	210
Asp Ile Phe Arg Asn	Asp Gly Ser Ile	Met Leu Gln Gly Val	Arg
215		220	225
Glu Ser Asp Gly Gly	Asn Tyr Thr Cys	Ser Ile His Leu Gly	Asn
230		235	240
Leu Val Phe Lys Lys	Thr Ile Val Leu	His Val Ser Pro Glu	Glu
245		250	255
Pro Arg Thr Leu Val	Thr Pro Ala Ala	Leu Arg Pro Leu Val	Leu
260		265	270
Gly Gly Asn Gln Leu	Val Ile Ile Val	Gly Ile Val Cys Ala	Thr
275		280	285
Ile Leu Leu Leu Pro	Val Leu Ile Leu	Ile Val Lys Lys Thr	Cys
290		295	300
Gly Asn Lys Ser Ser	Val Asn Ser Thr	Val Leu Val Lys Asn	Thr
305		310	315
Lys Lys Thr Asn Pro	Glu Ile Lys Glu	Lys Pro Cys His Phe	Glu
320		325	330
Arg Cys Glu Gly Glu	Lys His Ile Tyr	Ser Pro Ile Ile Val	Arg
335		340	345
Glu Val Ile Glu Glu	Glu Glu Pro Ser	Glu Lys Ser Glu Ala	Thr
350		355	360
Tyr Met Thr Met His	Pro Val Trp Pro	Ser Leu Arg Ser Asp	Arg
365		370	375
Asn Asn Ser Leu Glu	Lys Lys Ser Gly	Gly Gly Met Pro Lys	Thr
380		385	390
Gln Gln Ala Phe			

<210> 423  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 423  
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 ccattctcaca tggttctacc ctactaaaga caggaagatc ataaactgac 100  
 agatactgaa attgtaagag ttggaaacta cattttgcaa agtcattgaa 150  
 ctctgagctc agttgcagta ctcgggaagc catgcaggat gaagatggat 200

acatcacctt aaatattaaa actcggaac cagctctcgt ctccgttggc 250  
 cctgcatcct cctcctggtg gcgtgtgatg gctttgattc tgctgaccc 300  
 gtgcgtgggg atggttgtcg ggctgggtggc tctggggatt tgggtctgtca 350  
 tgcagcgcaa ttacctacaa gatgagaatg aaaatcgcac aggaactctg 400  
 caacaattag caaagcgctt ctgtcaatat gtggtaaaac aatcagaact 450  
 aaagggcact ttcaaaggtc ataaatgcag ccctgtgac acaaactgga 500  
 gatattatgg agatagctgc tatgggttct tcaggcacia cttaacatgg 550  
 gaagagagta agcagtactg cactgacatg aatgctactc tcctgaagat 600  
 tgacaaccgg aacattgtgg agtacatcaa agccaggact catttaattc 650  
 gttgggtcgg attatctcgc cagaagtcga atgaggtctg gaagtgggag 700  
 gatggctcgg ttatctcaga aaatatgttt gagtttttgg aagatggaaa 750  
 aggaaatatg aattgtgctt attttcataa tgggaaaatg caccctacct 800  
 tctgtgagaa caaacattat ttaatgtgtg agaggaaggc tggcatgacc 850  
 aaggtggacc aactacctta atgcaaagag gtggacagga taacacagat 900  
 aagggtttta ttgtacaata aaagatatgt atgaatgcat cagtagctga 950  
 aaaaaaaaaa aaa 963

<210> 424  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 424  
 Met Gln Asp Glu Asp Gly Tyr Ile Thr Leu Asn Ile Lys Thr Arg  
 1 5 10 15  
 Lys Pro Ala Leu Val Ser Val Gly Pro Ala Ser Ser Ser Trp Trp  
 20 25 30  
 Arg Val Met Ala Leu Ile Leu Leu Ile Leu Cys Val Gly Met Val  
 35 40 45  
 Val Gly Leu Val Ala Leu Gly Ile Trp Ser Val Met Gln Arg Asn  
 50 55 60  
 Tyr Leu Gln Asp Glu Asn Glu Asn Arg Thr Gly Thr Leu Gln Gln  
 65 70 75  
 Leu Ala Lys Arg Phe Cys Gln Tyr Val Val Lys Gln Ser Glu Leu  
 80 85 90  
 Lys Gly Thr Phe Lys Gly His Lys Cys Ser Pro Cys Asp Thr Asn  
 95 100 105  
 Trp Arg Tyr Tyr Gly Asp Ser Cys Tyr Gly Phe Phe Arg His Asn  
 110 115 120  
 Leu Thr Trp Glu Glu Ser Lys Gln Tyr Cys Thr Asp Met Asn Ala

	125		130		135
Thr Leu Leu Lys	Ile Asp Asn Arg Asn	Ile Val Glu Tyr Ile	Lys		
	140		145		150
Ala Arg Thr His	Leu Ile Arg Trp Val	Gly Leu Ser Arg Gln	Lys		
	155		160		165
Ser Asn Glu Val	Trp Lys Trp Glu Asp	Gly Ser Val Ile Ser	Glu		
	170		175		180
Asn Met Phe Glu	Phe Leu Glu Asp Gly	Lys Gly Asn Met Asn	Cys		
	185		190		195
Ala Tyr Phe His	Asn Gly Lys Met His	Pro Thr Phe Cys Glu	Asn		
	200		205		210
Lys His Tyr Leu	Met Cys Glu Arg Lys	Ala Gly Met Thr Lys	Val		
	215		220		225

Asp Gln Leu Pro

<210> 425  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 425  
 tgcagcccct gtgacacaaa ctgg 24

<210> 426  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 426  
 ctgagataac cgagccatcc tccac 26

<210> 427  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<400> 427  
 gcttcctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49

<210> 428  
 <211> 21  
 <212> DNA  
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<220>  
 <223> Synthetic oligonucleotide probe

<400> 428  
ccaccaatgg cagccccacc t 21

<210> 429  
<211> 17  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 429  
gactgccctc cctgcca 17

<210> 430  
<211> 24  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 430  
caaaaagcct ggaagtcttc aaag 24

<210> 431  
<211> 20  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 431  
cagctggact gcaggtgcta 20

<210> 432  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 432  
cagtgagcac agcaagtgtc ct 22

<210> 433  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 433  
ggccacctcc ttgagtcttc agttccct 28

<210> 434  
<211> 24  
<212> DNA  
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<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 434  
 caactactgg ctaaagctgg tgaa 24  
  
 <210> 435  
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 <400> 435  
 cctttctgta taggtgatac ccaatga 27  
  
 <210> 436  
 <211> 24  
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 <400> 436  
 tggccatccc taccagaggc aaaa 24  
  
 <210> 437  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 437  
 ctgaagacga cgcggattac ta 22  
  
 <210> 438  
 <211> 19  
 <212> DNA  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 438  
 ggcagaaatg ggaggcaga 19  
  
 <210> 439  
 <211> 30  
 <212> DNA  
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 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 439  
 tgctctgttg gctacggctt tagtccctag 30  
  
 <210> 440  
 <211> 22

<212> DNA  
 <213> Artificial Sequence  
  
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 <400> 440  
 agcagcagcc atgtagaatg aa 22  
  
 <210> 441  
 <211> 22  
 <212> DNA  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 441  
 aatacgaaca gtgcacgctg at 22  
  
 <210> 442  
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 <210> 443  
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 <210> 444  
 <211> 23  
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 <400> 444  
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 <211> 25  
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 <400> 445  
 tcagtggccc taaggagatg ggcct 25

<210> 446  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
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 caggatacag tgggaatctt gaga 24  
  
 <210> 447  
 <211> 22  
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 <213> Artificial Sequence  
  
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 <210> 450  
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 <210> 451  
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<400> 451  
cagcacccca ggcagtctgt gtgt 24

<210> 452  
<211> 24  
<212> DNA  
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<220>  
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<400> 452  
aacgtgctac acgaccagtg tact 24

<210> 453  
<211> 27  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 453  
cacagcatat tcagatgact aaatcca 27

<210> 454  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 454  
ttgttttagtt ctccaccgtg tctccacaga a 31

<210> 455  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 455  
tgtcagaatg caacctggct t 21

<210> 456  
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<220>  
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<400> 456  
tgatgtgcct ggctcagaac 20

<210> 457  
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<212> DNA  
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 <210> 459  
 <211> 24  
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 <400> 459  
 ctccgtgacg gtctgctcac ttat 24  
  
 <210> 460  
 <211> 24  
 <212> DNA  
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 <400> 460  
 tggctgtcag tccagtggtc atgg 24  
  
 <210> 461  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 461  
 gcatagggat agataagatc ctgctttat 29  
  
 <210> 462  
 <211> 27  
 <212> DNA  
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 caaattaaag tacccatcag gagagaa 27  
  
 <210> 463  
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<212> DNA  
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 <210> 464  
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 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 464  
 gtgctgcca caattcatga 20  
  
 <210> 465  
 <211> 26  
 <212> DNA  
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 <210> 466  
 <211> 31  
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 <223> Synthetic oligonucleotide probe  
  
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 <210> 467  
 <211> 22  
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 <400> 467  
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 <210> 468  
 <211> 23  
 <212> DNA  
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 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 468  
 gaccagatgc aggtacagga tga 23

<210> 469  
 <211> 25  
 <212> DNA  
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 <400> 469  
 ctgccccttc agtgatgcca acctt 25  
  
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 <400> 470  
 ggggtggaggc tcactgagta ga 22  
  
 <210> 471  
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 <220>  
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 <400> 471  
 caatacagggt aatgaaactc tgcttctt 28  
  
 <210> 472  
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 <210> 475  
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 <220>  
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 <400> 475  
 accgcctacc gctgtgcca 20  
  
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 <211> 23  
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<220>
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<400> 480
tccacacttg gccagtttat 20

<210> 481
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<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 481
cccaacttct cccttttgga ccct 24

<210> 482
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 482
gtccccttcac tgttttagagc atga 24

<210> 483
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 483
actctccccc tcaacagcct cctgag 26

<210> 484
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 484
gtggtcaggg cagatccttt 20

<210> 485
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 485
acagatccag gagagactcc aca 23

<210> 486
<211> 21

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<212> DNA  
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 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 486  
 agcggcgctc ccagcctgaa t 21  
  
 <210> 487  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 487  
 catgattggc cctcagttcc atc 23  
  
 <210> 488  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 488  
 atagagggct cccagaagtg 20  
  
 <210> 489  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 489  
 cagggccttc agggccttca c 21  
  
 <210> 490  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 490  
 gctcagccaa aactgtca 19  
  
 <210> 491  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 491  
 ggggccctga cagtgtt 17

<210> 492  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 492  
ctgagccgag actggagcat ctacac 26

<210> 493  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 493  
gtgggcagcg tcttgctc 17

<210> 494  
<211> 1231  
<212> DNA  
<213> Homo Sapien

<400> 494  
cccacgcgtc cgcgcagtcg cgcagttctg cctccgcctg ccagtctcgc 50  
ccgcgatccc ggcccggggc tgtggcgctg actccgaccc aggcagccag 100  
cagcccgcgc gggagccgga ccgccgcggg aggagctcgg acggcatgct 150  
gagccccctc ctttgctgaa gcccgagtgc ggagaagccc gggcaaacgc 200  
aggctaagga gaccaaagcg gcgaagtgc gagacagcgg acaagcagcg 250  
gaggagaagg aggaggaggc gaaccagag aggggcagca aaagaagcgg 300  
tggtggtggg cgtcgtggcc atggcggcgg ctatcgccag ctcgctcatc 350  
cgtcagaaga ggcaagcccg cgagcgcgag aaatccaacg cctgcaagtg 400  
tgtcagcagc cccagcaaag gcaagaccag ctgcgacaaa aacaagttaa 450  
atgtcttttc ccgggtcaaa ctcttcggct ccaagaagag gcgcagaaga 500  
agaccagagc ctcagcttaa gggatatagt accaagctat acagccgaca 550  
aggctaccac ttgcagctgc aggcggatgg aaccattgat ggcaccaaag 600  
atgaggacag cacttacact ctgtttaacc tcatccctgt gggctctgca 650  
gtggtggcta tccaaggagt tcaaaccaag ctgtacttgg caatgaacag 700  
tgagggatac ttgtacacct cggaactttt cacacctgag tgcaaattca 750  
aagaatcagt gtttgaaaat tattatgtga catattcatc aatgatatac 800  
cgtcagcagc agtcaggccg aggggtggat ctgggtctga acaaagaagg 850  
agagatcatg aaaggcaacc atgtgaagaa gaacaagcct gcagctcatt 900





	215		220		225
Ser Arg Ser Val	Ser Gly Val Leu Asn Gly Gly Lys Ser Met Ser				
	230		235		240
His Asn Glu Ser Thr					
	245				

<210> 496  
 <211> 1471  
 <212> DNA  
 <213> Homo Sapien

<400> 496  
 ccaggatgga gctggggcct gtatagccat attattgttc tatgctacta 50  
 gacatggggg ggacttggtg aaaaaggtat tatccagcca gagggctctgg 100  
 gagccctgtc ttactgaacc tgggcaacct ggatattctg agacatattt 150  
 tggggggatt tcagtgaaaa aagtggggga tcccctccat ttagagtgtg 200  
 gcaaaggaaa aaacaccaag gttgggttcc ttcctgacat tggcagtgcc 250  
 ccagtagggg tgggatgagc gaatattccc aaagctaaag tcccacaccc 300  
 tgtagattac aagagtggat ttggcaggag tgtgccccaa aatacagtgg 350  
 aaaggtgcct gaagatattt aaaccacgtc ttggaaattt agtgggtctt 400  
 ggctttggga taggtgaagt gaggacagac actggagagg agggaaaggg 450  
 gacgttttca ataggaggca aaactcgagg gtgggatcca ctgaggagta 500  
 cataggctgc tggatctggt ggagccagca ctgggcccac ggggtggtaac 550  
 tggctgctgt ggaggggggt acgtgagggg ggggtctggg gcttatcctc 600  
 aggtcctgtg ggtggggcag cgagtcgggg cctgagcgtc aagagcatgc 650  
 cctagtgagc gggctcctct gggggagccc agcgcgctcc gggcgctgc 700  
 cggtttgggg gtgtctcctc ccggggcgct atggcgggcg tggccagtag 750  
 cctgatccgg cagaagcggg aggtccgcga gcccgggggc agccggccgg 800  
 tgtcggcgca gcggcgctg tgtccccg cgaccaagtc ctttgccag 850  
 aagcagctcc tcatcctgct gtccaagggt cgactgtgcg gggggcggcc 900  
 cgcgcggccg gaccgcggcc cggagcctca gctcaaaggc atcgtcacca 950  
 aactgttctg ccgccagggt ttctacctcc aggcgaatcc cgacggaagc 1000  
 atccagggca cccagagga taccagctcc ttcacccact tcaacctgat 1050  
 ccctgtgggc ctccgtgtgg tcaccatcca gagcgccaag ctgggtcact 1100  
 acatggccat gaatgctgag ggaactgctt acagttcgcc gcatttcaca 1150  
 gctgagtgtc gctttaagga gtgtgtcttt gagaattact acgtcctgta 1200  
 cgcctctgct ctctaccgcc agcgtcgttc tggccggggc tggtagctcg 1250

gcctggacaa ggagggccag gtcatgaagg gaaaccgagt taagaagacc 1300  
aaggcagctg cccactttct gcccaagctc ctggaggtgg ccatgtacca 1350  
ggagccttct ctccacagtg tccccgaggc ctccccttcc agtccccctg 1400  
ccccctgaaa tgtagtcctt ggactggagg ttccctgcac tcccagtgag 1450  
ccagccacca ccacaacctg t 1471

<210> 497  
<211> 225  
<212> PRT  
<213> Homo Sapien

<400> 497  
Met Ala Ala Leu Ala Ser Ser Leu Ile Arg Gln Lys Arg Glu Val  
1 5 10 15  
Arg Glu Pro Gly Gly Ser Arg Pro Val Ser Ala Gln Arg Arg Val  
20 25 30  
Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile  
35 40 45  
Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
50 55 60  
Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
65 70 75  
Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
80 85 90  
Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys  
110 115 120  
Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
125 130 135  
Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe  
140 145 150  
Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
155 160 165  
Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
170 175 180  
Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
185 190 195  
Phe Leu Pro Lys Leu Leu Glu Val Ala Met Tyr Gln Glu Pro Ser  
200 205 210  
Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro  
215 220 225

<210> 498  
<211> 744

<212> DNA  
<213> Homo Sapien

<400> 498  
atggccgcgg ccacgcctag cggcttgatc cgccagaagc ggcaggcgcg 50  
ggagcagcac tgggaccggc cgtctgccag caggaggcgg agcagcccca 100  
gcaagaaccg cgggctctgc aacggcaacc tgggtgatat cttctccaaa 150  
gtgcgcacatc tcggcctcaa gaagcgcagg ttgcggcgcc aagatcccca 200  
gctcaagggg atagtgacca gggttatatt caggcaaggc tactacttgc 250  
aaatgcaccc cgatggagct ctcgatggaa ccaaggatga cagcactaat 300  
tctacactct tcaacctcat accagtggga ctacgtgttg ttgccatcca 350  
gggagtgaaa acaggggtgt atatagccat gaatggagaa gggtacctct 400  
acccatcaga actttttacc cctgaatgca agtttaaga atctgttttt 450  
gaaaattatt atgtaatcta ctcatccatg ttgtacagac aacaggaatc 500  
tggttagagcc tgggttttgg gattaaataa ggaagggcaa gctatgaaag 550  
ggaacagagt aaagaaaacc aaaccagcag ctcatcttct acccaagcca 600  
ttggaagtgt ccatgtaccg agaaccatct ttgcatgatg ttggggaaac 650  
ggtcccgaag cctgggggtga cgccaagtaa aagcacaagt gcgtctgcaa 700  
taatgaatgg aggcaaacca gtcaacaaga gtaagacaac atag 744

<210> 499  
<211> 247  
<212> PRT  
<213> Homo Sapien

<400> 499  
Met Ala Ala Ala Ile Ala Ser Gly Leu Ile Arg Gln Lys Arg Gln  
1 5 10 15  
Ala Arg Glu Gln His Trp Asp Arg Pro Ser Ala Ser Arg Arg Arg  
20 25 30  
Ser Ser Pro Ser Lys Asn Arg Gly Leu Cys Asn Gly Asn Leu Val  
35 40 45  
Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg  
50 55 60  
Leu Arg Arg Gln Asp Pro Gln Leu Lys Gly Ile Val Thr Arg Leu  
65 70 75  
Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala  
80 85 90  
Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys  
110 115 120

Thr	Gly	Leu	Tyr	Ile	Ala	Met	Asn	Gly	Glu	Gly	Tyr	Leu	Tyr	Pro
				125					130					135
Ser	Glu	Leu	Phe	Thr	Pro	Glu	Cys	Lys	Phe	Lys	Glu	Ser	Val	Phe
				140					145					150
Glu	Asn	Tyr	Tyr	Val	Ile	Tyr	Ser	Ser	Met	Leu	Tyr	Arg	Gln	Gln
				155					160					165
Glu	Ser	Gly	Arg	Ala	Trp	Phe	Leu	Gly	Leu	Asn	Lys	Glu	Gly	Gln
				170					175					180
Ala	Met	Lys	Gly	Asn	Arg	Val	Lys	Lys	Thr	Lys	Pro	Ala	Ala	His
				185					190					195
Phe	Leu	Pro	Lys	Pro	Leu	Glu	Val	Ala	Met	Tyr	Arg	Glu	Pro	Ser
				200					205					210
Leu	His	Asp	Val	Gly	Glu	Thr	Val	Pro	Lys	Pro	Gly	Val	Thr	Pro
				215					220					225
Ser	Lys	Ser	Thr	Ser	Ala	Ser	Ala	Ile	Met	Asn	Gly	Gly	Lys	Pro
				230					235					240
Val	Asn	Lys	Ser	Lys	Thr	Thr								
				245										

<210> 500  
 <211> 2906  
 <212> DNA  
 <213> Homo Sapien

<400> 500  
 ggggagagga attgaccatg taaaaggaga cttttttttt tgggtggtggt 50  
 ggctgttggg tgccttgcaa aaatgaagga tgcaggacgc agctttctcc 100  
 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttggtgtgtt ctgacataaa taaataatct taaagcagct gttcccctcc 300  
 ccacccccaa aaaaaaggat gattggaaat gaagaaccga ggattcacia 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
 gatatttttg gaatgaaaag tttggggcct ttttagtaaa gtaaagaact 450  
 ggtgtggtgg tgttttcctt tctttttgaa tttcccacia gaggagagga 500  
 aattaataat acatctgcaa agaaatttca gagaagaaaa gttgaccgcg 550  
 gcagattgag gcattgattg ggggagagaa accagcagag cacagttgga 600  
 tttgtgccta tgttgactaa aattgacgga taattgcagt tggatttttc 650  
 ttcataaacc tccttttttt taaattttta ttccttttgg tatcaagatc 700  
 atgcgttttc tcttgttctt aaccacctgg atttccatct ggatgttgct 750



agtgggatcc caggaattga tgaggatcatg aagactacca aaatcatcat 2400  
 tgggtgtttt gtggccatca cactcatggc tgcagtgatg ctggtcattt 2450  
 tctacaagat gaggaagcag caccatcggc aaaaccatca cgccccaaca 2500  
 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
 catggaaagc cacctgcccc tgctgtctat cgagcatgag cacctaaatc 2600  
 actataactc atacaaatct ccccttcaacc acacaacaac agttaacaca 2650  
 ataaattcaa tacacagttc agtgcgatgaa ccgttattga tccgaatgaa 2700  
 ctctaaagac aatgtacaag agactcaaat ctaaaacatt tacagagtta 2750  
 caaaaaacaa acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800  
 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaacaa 2850  
 aaaagaaaag aaatttatit attaaaaatt ctattgtgat ctaaagcaga 2900  
 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501  
 Met Leu Asn Lys Met Thr Leu His Pro Gln Gln Ile Met Ile Gly  
 1 5 10 15  
 Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu  
 20 25 30  
 Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln  
 35 40 45  
 Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val  
 50 55 60  
 Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser  
 65 70 75  
 Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile  
 80 85 90  
 Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu  
 95 100 105  
 Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe  
 110 115 120  
 Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg  
 125 130 135  
 Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu  
 140 145 150  
 Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser  
 155 160 165

Tyr	Ala	Phe	Asn	Arg	Ile	Pro	Ser	Leu	Arg	Arg	Leu	Asp	Leu	Gly
				170					175					180
Glu	Leu	Lys	Arg	Leu	Ser	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly
				185					190					195
Leu	Ser	Asn	Leu	Arg	Tyr	Leu	Asn	Leu	Ala	Met	Cys	Asn	Leu	Arg
				200					205					210
Glu	Ile	Pro	Asn	Leu	Thr	Pro	Leu	Ile	Lys	Leu	Asp	Glu	Leu	Asp
				215					220					225
Leu	Ser	Gly	Asn	His	Leu	Ser	Ala	Ile	Arg	Pro	Gly	Ser	Phe	Gln
				230					235					240
Gly	Leu	Met	His	Leu	Gln	Lys	Leu	Trp	Met	Ile	Gln	Ser	Gln	Ile
				245					250					255
Gln	Val	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Asn	Leu	Gln	Ser	Leu	Val
				260					265					270
Glu	Ile	Asn	Leu	Ala	His	Asn	Asn	Leu	Thr	Leu	Leu	Pro	His	Asp
				275					280					285
Leu	Phe	Thr	Pro	Leu	His	His	Leu	Glu	Arg	Ile	His	Leu	His	His
				290					295					300
Asn	Pro	Trp	Asn	Cys	Asn	Cys	Asp	Ile	Leu	Trp	Leu	Ser	Trp	Trp
				305					310					315
Ile	Lys	Asp	Met	Ala	Pro	Ser	Asn	Thr	Ala	Cys	Cys	Ala	Arg	Cys
				320					325					330
Asn	Thr	Pro	Pro	Asn	Leu	Lys	Gly	Arg	Tyr	Ile	Gly	Glu	Leu	Asp
				335					340					345
Gln	Asn	Tyr	Phe	Thr	Cys	Tyr	Ala	Pro	Val	Ile	Val	Glu	Pro	Pro
				350					355					360
Ala	Asp	Leu	Asn	Val	Thr	Glu	Gly	Met	Ala	Ala	Glu	Leu	Lys	Cys
				365					370					375
Arg	Ala	Ser	Thr	Ser	Leu	Thr	Ser	Val	Ser	Trp	Ile	Thr	Pro	Asn
				380					385					390
Gly	Thr	Val	Met	Thr	His	Gly	Ala	Tyr	Lys	Val	Arg	Ile	Ala	Val
				395					400					405
Leu	Ser	Asp	Gly	Thr	Leu	Asn	Phe	Thr	Asn	Val	Thr	Val	Gln	Asp
				410					415					420
Thr	Gly	Met	Tyr	Thr	Cys	Met	Val	Ser	Asn	Ser	Val	Gly	Asn	Thr
				425					430					435
Thr	Ala	Ser	Ala	Thr	Leu	Asn	Val	Thr	Ala	Ala	Thr	Thr	Thr	Pro
				440					445					450
Phe	Ser	Tyr	Phe	Ser	Thr	Val	Thr	Val	Glu	Thr	Met	Glu	Pro	Ser
				455					460					465
Gln	Asp	Glu	Ala	Arg	Thr	Thr	Asp	Asn	Asn	Val	Gly	Pro	Thr	Pro
				470					475					480



Val	Val	Asp	Trp	Glu	Thr	Thr	Asn	Val	Thr	Thr	Ser	Leu	Thr	Pro
				485					490					495
Gln	Ser	Thr	Arg	Ser	Thr	Glu	Lys	Thr	Phe	Thr	Ile	Pro	Val	Thr
				500					505					510
Asp	Ile	Asn	Ser	Gly	Ile	Pro	Gly	Ile	Asp	Glu	Val	Met	Lys	Thr
				515					520					525
Thr	Lys	Ile	Ile	Ile	Gly	Cys	Phe	Val	Ala	Ile	Thr	Leu	Met	Ala
				530					535					540
Ala	Val	Met	Leu	Val	Ile	Phe	Tyr	Lys	Met	Arg	Lys	Gln	His	His
				545					550					555
Arg	Gln	Asn	His	His	Ala	Pro	Thr	Arg	Thr	Val	Glu	Ile	Ile	Asn
				560					565					570
Val	Asp	Asp	Glu	Ile	Thr	Gly	Asp	Thr	Pro	Met	Glu	Ser	His	Leu
				575					580					585
Pro	Met	Pro	Ala	Ile	Glu	His	Glu	His	Leu	Asn	His	Tyr	Asn	Ser
				590					595					600
Tyr	Lys	Ser	Pro	Phe	Asn	His	Thr	Thr	Thr	Val	Asn	Thr	Ile	Asn
				605					610					615
Ser	Ile	His	Ser	Ser	Val	His	Glu	Pro	Leu	Leu	Ile	Arg	Met	Asn
				620					625					630
Ser	Lys	Asp	Asn	Val	Gln	Glu	Thr	Gln	Ile					
				635					640					

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
 gcgccgggag cccatctgcc cccaggggca cggggcgcg ggccgggtcc 50  
 cgcccgccac atggctgcag ccacctcgcg cgcaccccga ggcgccgcgc 100  
 ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg cccgcgtccg gggatcgga tgtccctcct 200  
 ccttctcctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaaccaa aagtggatgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttcctgg caggagatgc ctccttgag attgaacctc tgaagcccag 500  
 tgatgagggc cgttacacct gtaagggtta gaattcaggg cgctacgtgt 550  
 ggagccatgt catcttaaaa gtcttagtga gaccatccaa gccaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
 gtcacacctct ggcacagagc ccattgtgta ttactggcag cgaatccgag 700  
 agaaagaggg agaggatgaa cgtctgcctc ccaaacttag gattgactac 750  
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
 actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
 tgcgagtaac tgtacagtat gtacaaagca tcggcatggg tgcaggagca 900  
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 gctaataccga aggaaagaca aagaaagata tgaggaagaa gagagaccta 1000  
 atgaaattcg agaagatgct gaagctccaa aagcccgctt tgtgaaaccc 1050  
 agctcctctt cctcaggctc tcggagctca cgctctgggt cttcctccac 1100  
 tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150  
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200  
 ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaatctgac 1250  
 caaagcagaa accacaccca gcatgatccc cagccagagc agagccttcc 1300  
 aaacggtctg aattacaatg gacttgactc ccacgctttc ctaggagtca 1350  
 gggctcttgg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400  
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
 agatgagcat tttccttata caataccaaa caagcaaaag gatgtaagct 1500  
 gattcatctg taaaaaggca tcttattgtg ccttttagacc agagtaaggg 1550  
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaaggt 1600  
 tgggggaaagg tgaggtgaat atacctaaaa cttttaatgt gggatatttt 1650  
 gtatcagtg c tttgattcac aattttcaag aggaaatggg atgctgtttg 1700  
 taaattttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
 cagtcaagca gaacccacag ccttattaca cctgtctaca ccatgtactg 1800  
 agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850  
 ctgacttaac ttcatttgtc ataaggtttg gatattaatt tcaaggggag 1900  
 ttgaaatagt gggagatgga gaagagtga tgagtttctc ccaactctata 1950  
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 aatttgtgac aaaggattgt gaagagcttt ccatcttcat gatgttatga 2050  
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<210> 503  
 <211> 373  
 <212> PRT  
 <213> Homo Sapien

<400> 503  
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 Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu  
 65 70 75  
 Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu  
 80 85 90  
 Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp  
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 Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val  
 110 115 120  
 Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro  
 125 130 135  
 Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr  
 140 145 150  
 Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr  
 155 160 165  
 Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro  
 170 175 180  
 Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu  
 185 190 195  
 Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
 200 205 210  
 Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
 215 220 225

Gln Tyr Val Gln	Ser Ile Gly Met Val	Ala Gly Ala Val Thr Gly	230	235	240
Ile Val Ala Gly	Ala Leu Leu Ile Phe	Leu Leu Val Trp Leu Leu	245	250	255
Ile Arg Arg Lys	Asp Lys Glu Arg Tyr	Glu Glu Glu Glu Arg Pro	260	265	270
Asn Glu Ile Arg	Glu Asp Ala Glu Ala	Pro Lys Ala Arg Leu Val	275	280	285
Lys Pro Ser Ser	Ser Ser Ser Gly Ser	Arg Ser Ser Arg Ser Gly	290	295	300
Ser Ser Ser Thr	Arg Ser Thr Ala Asn	Ser Ala Ser Arg Ser Gln	305	310	315
Arg Thr Leu Ser	Thr Asp Ala Ala Pro	Gln Pro Gly Leu Ala Thr	320	325	330
Gln Ala Tyr Ser	Leu Val Gly Pro Glu	Val Arg Gly Ser Glu Pro	335	340	345
Lys Lys Val His	His Ala Asn Leu Thr	Lys Ala Glu Thr Thr Pro	350	355	360
Ser Met Ile Pro	Ser Gln Ser Arg Ala	Phe Gln Thr Val	365	370	

<210> 504  
 <211> 3060  
 <212> DNA  
 <213> Homo Sapien

<400> 504  
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 aatttacgct tagtcccga gaccaggac cgctggacat cgagtggctg 250  
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<210> 505  
<211> 352  
<212> PRT  
<213> Homo Sapien

<400> 505  
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Lys Ala Lys Gly Glu Thr Ala Tyr Leu Pro Cys Lys Phe Thr Leu  
35 40 45  
Ser Pro Glu Asp Gln Gly Pro Leu Asp Ile Glu Trp Leu Ile Ser  
50 55 60  
Pro Ala Asp Asn Gln Lys Val Asp Gln Val Ile Ile Leu Tyr Ser  
65 70 75  
Gly Asp Lys Ile Tyr Asp Asp Tyr Tyr Pro Asp Leu Lys Gly Arg  
80 85 90  
Val His Phe Thr Ser Asn Asp Leu Lys Ser Gly Asp Ala Ser Ile  
95 100 105  
Asn Val Thr Asn Leu Gln Leu Ser Asp Ile Gly Thr Tyr Gln Cys  
110 115 120  
Lys Val Lys Lys Ala Pro Gly Val Ala Asn Lys Lys Ile His Leu



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<210> 507  
 <211> 206  
 <212> PRT



<213> Homo Sapien

<400> 507

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Val Val Leu Pro Cys Leu Gly Phe Thr Leu Leu Leu Trp Ser Gln  
35 40 45  
Val Ser Gly Ala Gln Gly Gln Glu Phe His Phe Gly Pro Cys Gln  
50 55 60  
Val Lys Gly Val Val Pro Gln Lys Leu Trp Glu Ala Phe Trp Ala  
65 70 75  
Val Lys Asp Thr Met Gln Ala Gln Asp Asn Ile Thr Ser Ala Arg  
80 85 90  
Leu Leu Gln Gln Glu Val Leu Gln Asn Val Ser Asp Ala Glu Ser  
95 100 105  
Cys Tyr Leu Val His Thr Leu Leu Glu Phe Tyr Leu Lys Thr Val  
110 115 120  
Phe Lys Asn His His Asn Arg Thr Val Glu Val Arg Thr Leu Lys  
125 130 135  
Ser Phe Ser Thr Leu Ala Asn Asn Phe Val Leu Ile Val Ser Gln  
140 145 150  
Leu Gln Pro Ser Gln Glu Asn Glu Met Phe Ser Ile Arg Asp Ser  
155 160 165  
Ala His Arg Arg Phe Leu Leu Phe Arg Arg Ala Phe Lys Gln Leu  
170 175 180  
Asp Val Glu Ala Ala Leu Thr Lys Ala Leu Gly Glu Val Asp Ile  
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<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

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<210> 509  
 <211> 177  
 <212> PRT  
 <213> Homo Sapien

<400> 509  
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 20 25 30  
 Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys  
 35 40 45  
 Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu  
 50 55 60  
 Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys  
 65 70 75  
 Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe  
 80 85 90  
 Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser  
 95 100 105  
 Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln  
 110 115 120  
 Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn  
 125 130 135  
 Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His  
 140 145 150  
 Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

0997585 11501

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Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala		
170	175	

<210> 510  
<211> 996  
<212> DNA  
<213> Homo Sapien

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cccgaaggc tgccgcccct tcgccaagtt catctagggt cgctgg 996

<210> 511  
<211> 251  
<212> PRT  
<213> Homo Sapien

<400> 511  
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Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
20 25 30



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 <211> 482  
 <212> PRT  
 <213> Homo Sapien

<400> 513  
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 35 40 45  
 Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu  
 50 55 60  
 Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile  
 65 70 75  
 Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg  
 80 85 90  
 Glu Thr Arg Ser Phe Thr Lys Thr Ser Pro Asn Phe Met Val Leu  
 95 100 105  
 Ile Ala Thr Ser Val Glu Thr Ser Ala Ala Ser Gly Ser Pro Glu  
 110 115 120  
 Gly Ala Gly Met Thr Thr Val Gln Thr Ile Thr Gly Ser Asp Pro  
 125 130 135  
 Glu Glu Ala Ile Phe Asp Thr Leu Cys Thr Asp Asp Ser Ser Glu  
 140 145 150  
 Glu Ala Lys Thr Leu Thr Met Asp Ile Leu Thr Leu Ala His Thr  
 155 160 165  
 Ser Thr Glu Ala Lys Gly Leu Ser Ser Glu Ser Ser Ala Ser Ser  
 170 175 180  
 Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg Ala Ser Glu Ser  
 185 190 195  
 Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg  
 200 205 210  
 Ala Ser Glu Ser Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile  
 215 220 225  
 Thr Pro Ser Trp Ser Pro Gly Ser Asp Val Thr Leu Leu Ala Glu  
 230 235 240  
 Ala Leu Val Thr Val Thr Asn Ile Glu Val Ile Asn Cys Ser Ile  
 245 250 255

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Ile	Asp	Leu	Ile	Pro	Thr	Glu	Gly	Val	Lys	Ala	Ser	Ser	Thr	Ser	
				275					280					285	
Asp	Pro	Pro	Ala	Leu	Pro	Asp	Ser	Thr	Glu	Ala	Lys	Pro	His	Ile	
				290					295					300	
Thr	Glu	Val	Thr	Ala	Ser	Ala	Glu	Thr	Leu	Ser	Thr	Ala	Gly	Thr	
				305					310					315	
Thr	Glu	Ser	Ala	Ala	Pro	His	Ala	Thr	Val	Gly	Thr	Pro	Leu	Pro	
				320					325					330	
Thr	Asn	Ser	Ala	Thr	Glu	Arg	Glu	Val	Thr	Ala	Pro	Gly	Ala	Thr	
				335					340					345	
Thr	Leu	Ser	Gly	Ala	Leu	Val	Thr	Val	Ser	Arg	Asn	Pro	Leu	Glu	
				350					355					360	
Glu	Thr	Ser	Ala	Leu	Ser	Val	Glu	Thr	Pro	Ser	Tyr	Val	Lys	Val	
				365					370					375	
Ser	Gly	Ala	Ala	Pro	Val	Ser	Ile	Glu	Ala	Gly	Ser	Ala	Val	Gly	
				380					385					390	
Lys	Thr	Thr	Ser	Phe	Ala	Gly	Ser	Ser	Ala	Ser	Ser	Tyr	Ser	Pro	
				395					400					405	
Ser	Glu	Ala	Ala	Leu	Lys	Asn	Phe	Thr	Pro	Ser	Glu	Thr	Pro	Thr	
				410					415					420	
Met	Asp	Ile	Ala	Thr	Lys	Gly	Pro	Phe	Pro	Thr	Ser	Arg	Asp	Pro	
				425					430					435	
Leu	Pro	Ser	Val	Pro	Pro	Thr	Thr	Thr	Asn	Ser	Ser	Arg	Gly	Thr	
				440					445					450	
Asn	Ser	Thr	Leu	Ala	Lys	Ile	Thr	Thr	Ser	Ala	Lys	Thr	Thr	Met	
				455					460					465	
Lys	Pro	Gln	Gln	Pro	Arg	Pro	Arg	Leu	Pro	Gly	Arg	Gly	Arg	Pro	
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Gln Thr

<210> 514  
 <211> 2284  
 <212> DNA  
 <213> Homo Sapien

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 ggcgcgggg tcctctogac gccagagaga aatctcatca tctgtgcagc 150  
 ottcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200  
 gacaaaaact aaactgaaat ttaaaatggt cttcggggga gaaggagct 250





ggtcaggctg gtctcaaact cctgacctag tgatccaccc tcctcggcct 1900  
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 attttgggta atctgtctct aaaatattag ctaaaaacaa agctctatgt 2050  
 aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcttt 2100  
 tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 2150  
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 aattaaatat ttgaataaat cttttgttac tcaa 2284

<210> 515  
 <211> 431  
 <212> PRT  
 <213> Homo Sapien

<400> 515  
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 Lys Lys Ser Leu Glu Asp Val Val Ile Asp Ile Gln Ser Ser Leu  
 35 40 45  
 Ser Lys Gly Ile Arg Gly Asn Glu Pro Val Tyr Thr Ser Thr Gln  
 50 55 60  
 Glu Asp Cys Ile Asn Ser Cys Cys Ser Thr Lys Asn Ile Ser Gly  
 65 70 75  
 Asp Lys Ala Cys Asn Leu Met Ile Phe Asp Thr Arg Lys Thr Ala  
 80 85 90  
 Arg Gln Pro Asn Cys Tyr Leu Phe Phe Cys Pro Asn Glu Glu Ala  
 95 100 105  
 Cys Pro Leu Lys Pro Ala Lys Gly Leu Met Ser Tyr Arg Ile Ile  
 110 115 120  
 Thr Asp Phe Pro Ser Leu Thr Arg Asn Leu Pro Ser Gln Glu Leu  
 125 130 135  
 Pro Gln Glu Asp Ser Leu Leu His Gly Gln Phe Ser Gln Ala Val  
 140 145 150  
 Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp  
 155 160 165  
 Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly Ser Ser Asp  
 170 175 180  
 His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala Gln Leu  
 185 190 195

Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser	Gln	Phe	Ser	
				200					205					210	
Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val	Ser	Ala	
				215					220					225	
Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser	Ala	
				230					235					240	
Thr	Pro	Lys	Pro	Ala	Thr	Leu	Leu	Pro	Thr	Asn	Ala	Ser	Val	Thr	
				245					250					255	
Pro	Ser	Gly	Thr	Ser	Gln	Pro	Gln	Leu	Ala	Thr	Thr	Ala	Pro	Pro	
				260					265					270	
Val	Thr	Thr	Val	Thr	Ser	Gln	Pro	Pro	Thr	Thr	Leu	Ile	Ser	Thr	
				275					280					285	
Val	Phe	Thr	Arg	Ala	Ala	Ala	Thr	Leu	Gln	Ala	Met	Ala	Thr	Thr	
				290					295					300	
Ala	Val	Leu	Thr	Thr	Thr	Phe	Gln	Ala	Pro	Thr	Asp	Ser	Lys	Gly	
				305					310					315	
Ser	Leu	Glu	Thr	Ile	Pro	Phe	Thr	Glu	Ile	Ser	Asn	Leu	Thr	Leu	
				320					325					330	
Asn	Thr	Gly	Asn	Val	Tyr	Asn	Pro	Thr	Ala	Leu	Ser	Met	Ser	Asn	
				335					340					345	
Val	Glu	Ser	Ser	Thr	Met	Asn	Lys	Thr	Ala	Ser	Trp	Glu	Gly	Arg	
				350					355					360	
Glu	Ala	Ser	Pro	Gly	Ser	Ser	Ser	Gln	Gly	Ser	Val	Pro	Glu	Asn	
				365					370					375	
Gln	Tyr	Gly	Leu	Pro	Phe	Glu	Lys	Trp	Leu	Leu	Ile	Gly	Ser	Leu	
				380					385					390	
Leu	Phe	Gly	Val	Leu	Phe	Leu	Val	Ile	Gly	Leu	Val	Leu	Leu	Gly	
				395					400					405	
Arg	Ile	Leu	Ser	Glu	Ser	Leu	Arg	Arg	Lys	Arg	Tyr	Ser	Arg	Leu	
				410					415					420	
Asp	Tyr	Leu	Ile	Asn	Gly	Ile	Tyr	Val	Asp	Ile					
				425					430						

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 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> unsure  
 <222> 1869, 1887  
 <223> unknown base

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gcgggttcga aggggacact gtgtccctgc agtgcaccta caggggaagag 150  
ctgaggggacc accggaagta ctggtgcagg aaggggtggga tcctcttctc 200  
tcgctgctct ggcaccatct atgcagaaga agaaggccag gagacaatga 250  
agggcaggggt gtccatccgt gacagccgcc aggagctctc gtcattgtg 300  
accctgtgga acctcaccct gcaagacgct ggggagtact ggtgtgggggt 350  
cgaaaaacgg ggccccgatg agtcttttact gatctctctg ttctgtcttc 400  
caggaccctg ctgtccctccc tcccccttctc ccaccttcca gcctctggct 450  
acaacacgcc tgcagcccaa ggcaaaagct cagcaaacc agcccccagg 500  
attgacttct cctgggctct acccggcagc caccacagcc aagcagggga 550  
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ggcttggtgc aggactctga attctaacaa tgcccagtg ctgtgcact 1650  
tgagtttgag ggccagtggg cctgatgaac gctcacacc cttcagctta 1700



Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu	80	85	90
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr	95	100	105
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile	110	115	120
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser	125	130	135
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala	140	145	150
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu	155	160	165
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu	170	175	180
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr	185	190	195
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro	200	205	210
Ala	Gly	Ser	Ser	Arg	Pro	Pro	Met	Gln	Leu	Asp	Ser	Thr	Ser	Ala	215	220	225
Glu	Asp	Thr	Ser	Pro	Ala	Leu	Ser	Ser	Gly	Ser	Ser	Lys	Pro	Arg	230	235	240
Val	Ser	Ile	Pro	Met	Val	Arg	Ile	Leu	Ala	Pro	Val	Leu	Val	Leu	245	250	255
Leu	Ser	Leu	Leu	Ser	Ala	Ala	Gly	Leu	Ile	Ala	Phe	Cys	Ser	His	260	265	270
Leu	Leu	Leu	Trp	Arg	Lys	Glu	Ala	Gln	Gln	Ala	Thr	Glu	Thr	Gln	275	280	285
Arg	Asn	Glu	Lys	Phe	Trp	Leu	Ser	Arg	Leu	Thr	Ala	Glu	Glu	Lys	290	295	300
Glu	Ala	Pro	Ser	Gln	Ala	Pro	Glu	Gly	Asp	Val	Ile	Ser	Met	Pro	305	310	315
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Ser Ala

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<212> DNA

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<220>

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<210> 519

<211> 24

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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 519

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<211> 47

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<210> 521

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 521

ccagtgcaca gcaggcaacg aagc 24

<210> 522

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 522

actaggctgt atgcctgggt gggc 24

<210> 523

<211> 43

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<210> 524

<211> 26

<212> DNA

<213> Artificial Sequence

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<400> 524  
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<210> 525  
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<400> 525  
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<210> 526  
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<400> 526  
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<210> 527  
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<400> 527  
gatgaacttg gcgaaggggc ggca 24

<210> 528  
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<220>  
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<400> 528  
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<210> 529  
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<212> DNA  
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<220>  
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<400> 529  
gaagcaagtg cccagctc 18

<210> 530  
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<220>

<223> Synthetic oligonucleotide probe

<400> 530

cggtccctg ctcttttg 18

<210> 531

<211> 24

<212> DNA

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<223> Synthetic oligonucleotide probe

<400> 532

agtgttaagtc aagctccc 18